



2006

WORKFORCE

Training Results

Workforce Training and Education Coordinating Board



WASHINGTON STATE

Workforce Training and Education Coordinating Board

Our Vision

Washington's Workforce Training and Education Coordinating Board is an active and effective partnership of labor, business, and government leaders guiding the best workforce development system in the world.

Our Mission

We shape strategies to create and sustain a high-skill, high-wage economy.

To fulfill this Mission, the Board will:

- Advise the Governor, Legislature, and other policymakers on workforce development policy and innovative practice.
- Promote a seamless workforce development system that anticipates and meets the lifelong learning and employment needs of our current and future workforce.
- Advocate for the training and education needed for success in the 75–80 percent of jobs that do not require a baccalaureate degree
- Ensure quality and accountability by evaluating results, and supporting high standards and continuous improvement.

Board Members

David Harrison
Chair

Labor

Rick Bender
Janet Lewis
Beth Thew

Business

Julianne Hanner
Mike Hudson
Asbury Lockett

Government

Terry Bergeson
Superintendent of
Public Instruction

Charlie Earl
State Board for Community and
Technical Colleges

Karen Lee
Employment Security
Department

Target Populations

Tony Lee

Participating Officials

Robin Arnold-Williams
State Department of Social and
Health Services

Interim Executive Director

Don Bennett

The Workforce Training and Education Coordinating Board does not discriminate or deny services on the basis of race, color, national origin, sex, age, religion, or disability.

This publication is available in alternative format upon request.

WORKFORCE TRAINING RESULTS 2006



**WASHINGTON STATE
Workforce Training and Education Coordinating Board**

128 - 10th Avenue, S.W.
P.O. Box 43105
Olympia, WA 98504-3105
Telephone: 360.753.5662
Fax: 360.586.5862
<http://www.wtb.wa.gov>
e-mail: wtecb@wtb.wa.gov

Workforce Training Results 2006

Customer Satisfaction Survey

The Workforce Training and Education Coordinating Board is committed to high-quality customer satisfaction and continuous improvement. You can help us meet our commitment by completing this form, detaching it, and mailing it in. Please circle the words that best answer the following questions. In the spaces provided, please elaborate on your response.

1. How useful is this document?	not useful	somewhat useful	very useful
2. How clear is this document?	not clear	somewhat clear	very clear
3. How is the information presented?	not enough detail	right amount detail	too much detail
4. How is the length of the document?	too short	about right	too long

5. Do you want additional copies of this document? Yes ____ Quantity ____ No ____

6. How did you expect to use this document? How have you used this document?

7. How can this document be made more useful in future editions? What additional information would you like to see in subsequent documents?

Please Tell Us About Yourself

JOB TITLE	SECTOR Public ____ Private ____ Nonprofit ____	YOUR ZIP CODE
-----------	---	---------------

Does your organization provide training services to clients? Yes ____ No ____

Would you like to be contacted about future WTECB initiatives in this field? Yes ____ No ____

If we have any questions about what you have written here, may we contact you? Yes ____ No ____
(If you answered "yes" to this question or question #7, please fill out the following.)

NAME	ADDRESS	
TELEPHONE #	FAX#	EMAIL ADDRESS

EXECUTIVE SUMMARY

Introduction

This is the sixth biennial outcome evaluation of Washington State's workforce development system. It analyzes the results of 12 of the state's largest workforce programs. These programs account for over 90 percent of public expenditures in the workforce development system.

The purpose of this evaluation is to report the results of workforce development and to recommend areas for improvement. The report discusses program results for seven desired outcomes for the state workforce development system established by the Workforce Training and Education Coordinating Board (Workforce Board). These desired outcomes are not static targets, but are conditions that should be increasingly true for all people.

Programs

The programs in this evaluation are grouped into three categories based on participant characteristics. Five programs serve adults, five serve adults with barriers to employment, and two serve youth.

Programs Serving Adults

Community and Technical College (CTC) Job Preparatory Training: Training and education for a Vocational Associate of Arts Degree or a Vocational Certificate. This training does not include retraining of unemployed workers and classes taken by current workers to upgrade skills for their current job, nor does it include the other two mission areas of the colleges—academic transfer education and basic skills instruction.

Private Career Schools: Training provided by private businesses for students intending to complete vocational certificates or degrees. The

schools are licensed by the Workforce Board or, if they grant a degree, by the Higher Education Coordinating Board.

Apprenticeship: Training that combines classroom instruction with paid, on-the-job training under the supervision of a journey-level craft person or trade professional. Apprenticeships are governed by the Washington State Apprenticeship and Training Council and administered by the Department of Labor and Industries (L&I).

Worker Retraining at Community and Technical Colleges: Retraining for a new career provided to dislocated workers and the long-term unemployed. About 5 percent of worker retraining participants receive their training at private career schools. This evaluation, however, is limited to the public colleges.

Workforce Investment Act (WIA) Title I-B Dislocated Worker Program: Federal employment and training program for dislocated workers. The Employment Security Department (ESD) administers the program at the state level. Twelve local workforce development councils, in consultation with chief local elected officials, oversee WIA activities in local areas.

Seven Desired Outcomes for the State Workforce Development System

Competencies: Washington's workforce possesses the skills and abilities required in the workplace.

Employment: Washington's workforce finds employment opportunities.

Earnings: Washington's workforce achieves a family-wage standard of living from earned income.

Productivity: Washington's workforce is productive.

Reduced Poverty: Washington's workforce lives above poverty.

Customer Satisfaction: Workforce development participants and their employers are satisfied with workforce development services and results.

Return on Investment: Workforce development programs provide returns that exceed program costs.

Programs Serving Adults With Barriers to Employment

Adult Basic Skills Education/English as a Second Language (ABE/ESL): Literacy and math instruction for adults who are at a high school level or below. It includes courses in four categories: ABE for adults whose skills are at or below the eighth grade level, ESL, GED Test Preparation, and high school completion for adults who want to earn an adult high school diploma. Students receiving both basic skills instruction and job training are included in the evaluation of the job preparatory training or worker retraining programs and not in the evaluation of basic skills instruction. Community and technical colleges and other organizations such as libraries and community-based organizations provide basic skills instruction.

WIA Title I-B Adult Program: Federal employment and training program for adults who experience significant barriers to employment. ESD administers the program at the state level. Twelve local workforce development councils, in consultation with chief local elected officials, oversee WIA activities in local areas.

Division of Vocational Rehabilitation (DVR): Services to help eligible individuals with disabilities become employed. Eligibility requires that the individual have a physical, mental, or sensory impairment that constitutes or results in a substantial impediment to employment and that they need DVR services to enter or retain employment.

Department of Services for the Blind (DSB): Vocational rehabilitation services, counseling, training, and assistive technology to help participants achieve successful employment outcomes. In order to receive services, an individual must be legally blind or have a visual disability that causes an impediment to employment, and vocational rehabilitation services are required for the individual to prepare for, enter, engage in, or retain employment.

WorkFirst: Washington's welfare-to-work program based on the 1996 federal Temporary Assistance to Needy Families (TANF) welfare reform legislation. The aim of WorkFirst is to help low-income families become self-sufficient by providing training and support services necessary for parents to get a job, keep a job, and move up a career ladder.

Programs Serving Youth

Secondary Career and Technical Education (CTE): Training and education in high schools and skills centers in such areas as agriculture, business, marketing, family and consumer sciences, technology, trade and industry, and health occupations.

WIA Title I-B Youth Program: Preparation for youth for academic and employment success. In order to receive services, youth must be 14 through 21 years old, low income, and meet other criteria such as needing additional assistance to complete an educational program or to secure and hold employment. ESD administers the program at the state level. Twelve local workforce development councils, in consultation with chief local elected officials, oversee WIA activities in local areas. Local youth councils assist with the program.

We caution against making improper comparisons among these programs—the populations served, the types of services provided, and lengths of training vary substantially from program to program.

Data

Findings are based on the following sources of data:

- Program records on over 140,900 individuals who left one of these programs during the 2003-2004 program year. These records include information on most participants leaving these programs.
- Telephone survey responses from 1,360 firms that hired new employees who had recently completed one of the programs.

- Telephone survey responses from approximately 7,185 participants who left one of these programs during 2003-2004.¹
- Computer matches with Washington State ESD employment records and those of two other states (Idaho and Oregon), as well as federal employment records. These matches provide valuable information on employment and earnings outcomes. The data are incomplete, however, and employment rates among participants are underestimated. Such ESD records do not contain information on self-employment, and employment in states outside the Pacific Northwest is not included in this analysis.
- Computer matches with enrollment data from community and technical colleges and all public four-year institutions in the state, private career schools licensed by the Workforce Board, and apprenticeships overseen by L&I. These data underestimate postprogram enrollment rates; private four-year colleges and out-of-state schools are not included in the record matches.

Except for Secondary CTE, the participant results presented in this report are for all participants, not just those who completed their program. Participants are defined as individuals who entered a program and demonstrated the intent to complete a sequence of program activities. The number of participants who leave their program before completion affects program results.

Summary of Findings

Participant Characteristics

The demographic characteristics of program participants are an important factor in determining program results. Programs serving participants who have significant work experience and basic skills can be expected to have higher labor market

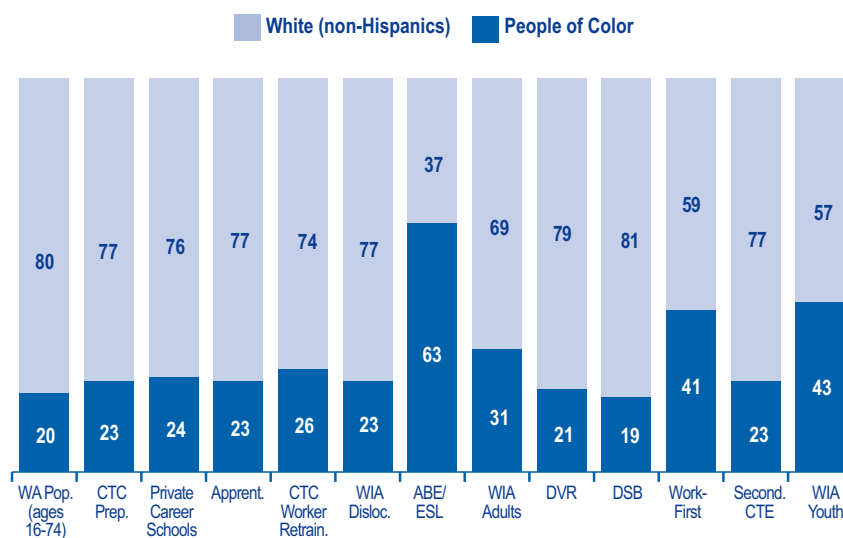
outcomes than those serving participants with little work experience, low levels of literacy, and other barriers to employment.

The racial and ethnic composition of participants in our workforce development programs were as, or more, diverse than similarly-aged populations in our state (Figure 1).²

¹DVR and DSB respondents were provided the option of a mailed survey: 38 percent of DVR and 18 percent of DSB respondents took that option. The sample sizes for the telephone survey vary by program. Samples are larger for programs that required a regional component to the analysis: these include CTC Job Preparatory, Secondary CTE, and WIA Title I-B programs (adults, dislocated workers, and youth). As a result, the precision of reported statistics vary. For example, the 95 percent confidence interval for overall satisfaction with the program is about plus/minus 2 percentage points for CTC Job Preparatory training and plus/minus 10 percentage points for DSB. WorkFirst clients did not participate in this study.

²The 2004 Washington State Population Survey was the source of data for the racial and ethnic background of the state's population.

FIGURE 1 Racial and Ethnic Composition of Program Participants (percentages)



Competency Gains

Desired Outcome: Washington State’s workforce possesses the skills and abilities required in the workplace.

Participants in workforce development programs attain competencies by virtue of participating in their programs. In many programs, however, successful completion is the ultimate goal and typically results in certificates, degrees, or specified levels of competency. The 2003-2004 participants successfully completed their programs at levels similar to two years ago (Figure 2).³

Workforce development is not limited to vocational training; it includes other services including assessments, counseling, and job search assistance. In five programs⁴ all participants, by definition, receive job-specific skills training. At the other extreme, none of the ABE/ESL students included in this study received vocational training.⁵ In the remaining five programs surveyed, results suggest that the proportion receiving job-specific skills training varied substantially (Figure 3).

Among those leaving programs in 2003-2004, 39 percent of DVR clients and 26 percent of DSB clients said they received job-specific skills training for a new job. Note that many clients in these two programs also received training to adapt their previous job skills to their disabilities.⁶ Moreover, DVR and DSB offer other work-related services in addition to training; for example, some clients receive physical and mental restoration services, assistive technology, and communication services.

³Seven of the twelve programs included in this report document program completion. Six of those programs are included in Figure 2; all participants in Secondary CTE programs were completers.

⁴These include CTC Job Preparatory training, Private Career Schools, Apprenticeship, CTC Worker Retraining, and Secondary CTE programs.

⁵This report is limited to adults who identified employment-related reasons for enrolling in ABE/ESL courses and who proceeded to take only basic skills courses. Individuals who took vocational courses in addition to basic skills are included in the analysis of CTC Job Preparatory training.

⁶Among those leaving programs in 2003-2004, 24 percent of DVR clients and 30 percent of DSB clients reported receiving training in how to adapt previous skills to a disability.

FIGURE 2 Completion Rates of Program Participants (percentages)

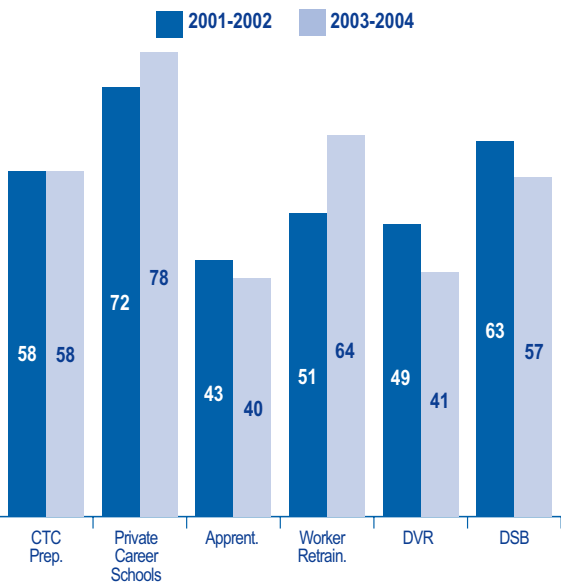
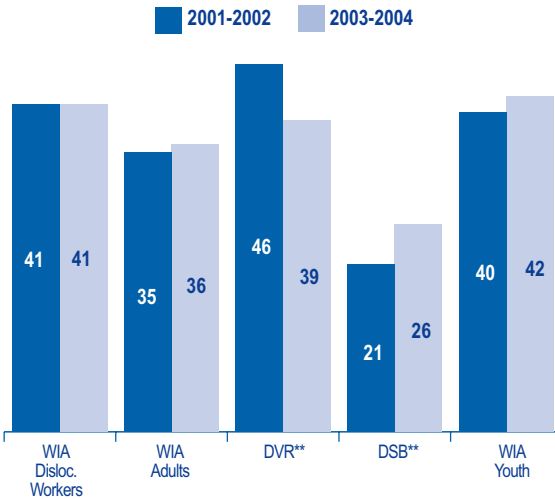


FIGURE 3 Participants Receiving Job-Specific Skills Training* (percentages)



*In some programs, such as CTC Job Preparatory, all participants by definition receive job-specific skills training.

**Refers to receipt of job-specific skills for a new job; some also receive training to adapt previous skills to their disability.

According to survey responses, 41 percent of WIA dislocated workers and 36 percent of WIA adults received job-specific skills training. (Administrative data may suggest that more received such training.)⁷

Among program participants who received job-specific skills training, almost all said their job-specific skills improved, and in most cases, the participants said their skills improved “a lot” (Figure 4).⁸

Another measure of whether training provided participants with the right skills is whether the participants believed their training was related to their postprogram employment (Figure 5). In all cases, a majority of program participants indicated their training was related to the job that they held during the third quarter after leaving the program. Compared to two years ago, CTC Job Preparatory and Worker Retraining participants were more likely to report that their training was related to their job; on the other hand, WIA youth were less likely to report a relationship.

Employment

Desired Outcome: Washington’s workforce finds employment opportunities.

We evaluate the labor market outcomes of program participants by examining their employment and earnings during the third quarter after leaving a program. Participants leaving their program in 2003-2004 encountered an economy that was recovering well from the recession of 2001. The state’s unemployment rate was on the decline (Figure 6).

⁷According to administrative data collected in the Service, Knowledge, and Information Exchange System (SKIES), 64 percent of dislocated workers and 42 percent of WIA adults received “occupational skills training.” Occupational skills training in the administrative records data could include a wide range of services—occupational skills training, programs that combine workplace training with related instruction, training programs operated by the private sector, skill upgrading and retraining, entrepreneurial training, job readiness training, and customized training.

⁸Information on skill improvement of DSB clients is not included in Figure 4 because the number receiving job-specific skills training was too small to determine reliable estimates.

FIGURE 4

Participants Who Said Their Job-Specific Skills Improved a Little or a Lot (percentages)

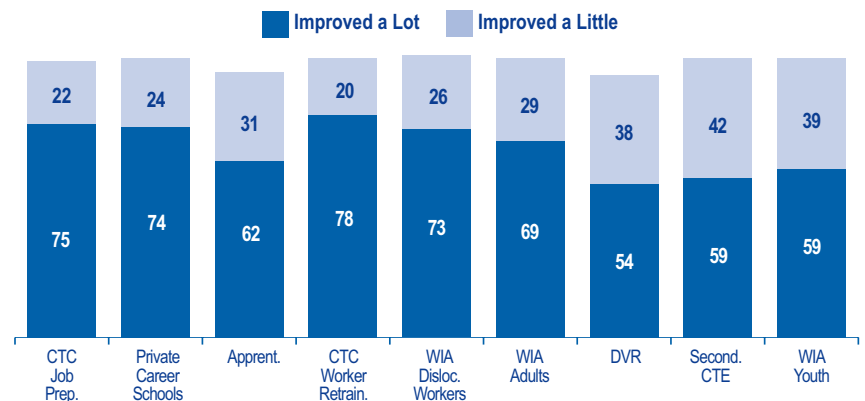


FIGURE 5

Participants Who Said Their Training Was Related to Job Held During the Third Quarter After Leaving Program (percentages)

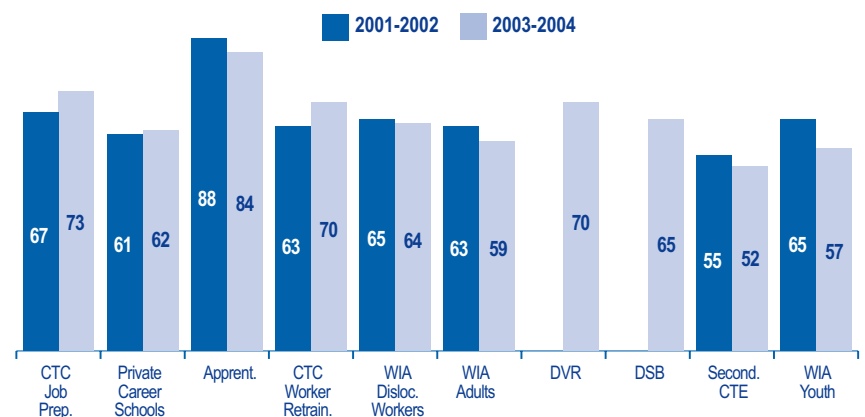
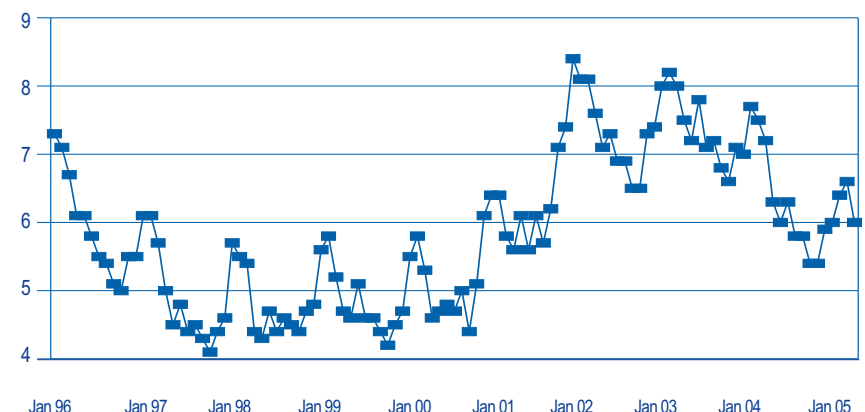


FIGURE 6

Unemployment Rate in Washington State (not seasonally adjusted)



Most program participants reported having a job during the third quarter (seven to nine months) after they left their program (Figure 7). Employment rates vary across programs. They are highest for programs serving adults, lower for those serving youth, and lowest for those serving adults with barriers to employment.

We used ESD records to examine changes in employment rates between participants who left programs during the 2001-2002 and 2003-2004 program years (Figure 8).⁹ Employment rates in most programs remained about the same or increased. Part of this increase may be due to the improving economy.

⁹Employment rates based on matches are lower than those based on survey results. ESD records do not contain information on self-employment. The estimates also exclude employment in states that are not included in our matching process.

FIGURE 7 Participants Self-Reporting Employment During the Third Quarter After Leaving Their Program (percentages)

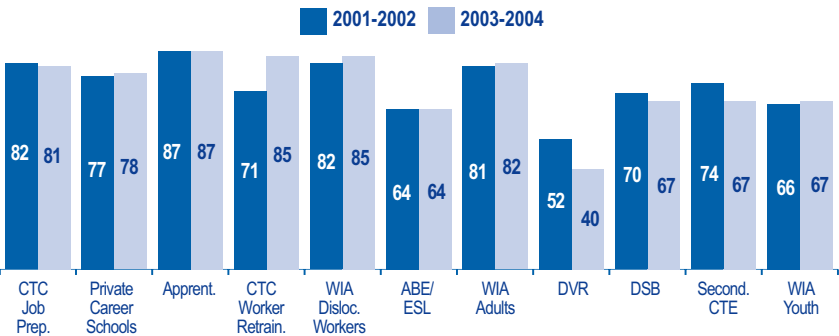
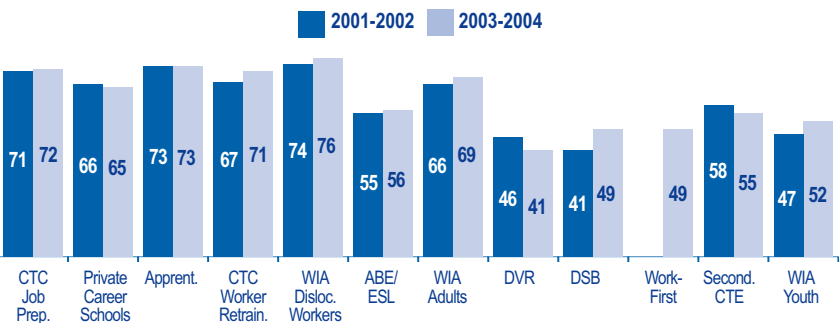


FIGURE 8 Participants With Employment Reported to ESD During the Third Quarter After Leaving Their Program (percentages)



The adoption of an order-of-selection continues to contribute to declines in reported employment among DVR clients. Since the end of 2000, when program funds and staff resources were insufficient to serve all eligible applicants, priority has been given to participants with the most significant disabilities. As a result, DVR clients leaving the program during 2001-2002 and continuing in 2003-2004 tended to have more significant disabilities than did those in earlier cohorts.

Earnings

Desired Outcome: Washington’s workforce achieves a family-wage standard of living from earned income.

Research has shown that postprogram earnings are very much affected by the characteristics of the participants who entered the program. Youth had the lowest postprogram hourly wages and quarterly earnings, and adults had the highest (Figure 9).

FIGURE 9 Median Hourly Wages and Annualized Earnings During the Third Quarter After Leaving Their Program*

	Hourly Wages of 2003-2004 Participants	Annualized Earnings of 2003-2004 Participants	Changes From 2001-2002 Hourly Wages	Earnings
Programs for Adults				
CTC Job Preparatory	\$13.06	\$22,603	0%	1%
Private Career Schools	\$11.64	\$18,849	-5%	-7%
Apprenticeship	\$21.96	\$33,229	1%	2%
CTC Worker Retraining	\$13.62	\$23,450	3%	4%
WIA Dislocated Workers	\$14.82	\$27,929	3%	2%
Programs for Adults With Barriers				
ABE	\$9.66	\$15,215	1%	-3%
WIA Adults	\$10.93	\$18,352	1%	4%
DVR	\$9.43	\$11,090	-9%	-14%
DSB	\$12.68	\$21,762	-10%	5%
WorkFirst	\$9.07	\$10,930	na	na
Programs for Youth**				
Secondary CTE	\$8.60	\$10,035	-3%	-2%
WIA Youth	\$8.41	\$9,775	-3%	-2%

*All wages and earnings are reported in 2005 Q1 dollars.
**Wages and earnings for WIA Youth are for those not enrolled in high school and for Secondary CTE are for those not enrolled in higher education.

Earnings and hourly wages were particularly high for individuals who participated in apprenticeship. In addition to the quality of the program, this finding reflects the length of the training and the labor market in their occupations and industries. Despite a stronger labor market compared to two years ago, earnings and wage changes were not always positive across programs.

In most instances, postprogram earnings and hourly wages were lower for women than for men (Figure 10). The especially large wage gap in apprenticeship is due to the concentration of women in relatively new apprenticeship programs that provide training outside the construction, precision, production, craft, and machinist trades. Among those leaving apprenticeships during 2003-2004, 49 percent of women (and virtually no men) left programs in early childhood education and teaching/library assistantship. Of those employed in the construction industries in the third quarter after leaving their apprenticeship program, males and females earned relatively the same wages.

Earnings were also lower for people with disabilities. Earnings were generally lower for people of color than for whites in 7 of the 11 programs.¹⁰ These differences in postprogram wages and earnings by gender, disability status, and race/ethnicity generally reflect differences observed in the overall labor market.

Participant Satisfaction

Desired Outcome: Workforce development participants and their employers are satisfied with workforce development services and results.

The vast majority of participants were satisfied with their program (Figure 11). Satisfaction levels—measured by averaging the percentage reporting that they met their educational objectives and the percentage satisfied with the overall quality of their programs—are high for all programs.¹¹ Reported levels of satisfaction increased among CTC Worker

Retraining, DSB, and Private Career School participants and decreased among DVR and Apprenticeship participants. Satisfaction levels for other programs are similar to those reported by 2001-2002 participants.

¹⁰No substantial racial and ethnic earnings differentials were observed for ABE/ESL and the WIA Youth program. Additionally, for the WIA Adult program, only African Americans had wages that were lower than whites. There were too few cases to examine racial differences in outcomes among DSB clients.

¹¹The percentages reported for DVR and DSB are for overall satisfaction with the program only.

FIGURE 10
Median Hourly Wage of Women Relative to Men
During the Third Quarter After Training
(percentages)

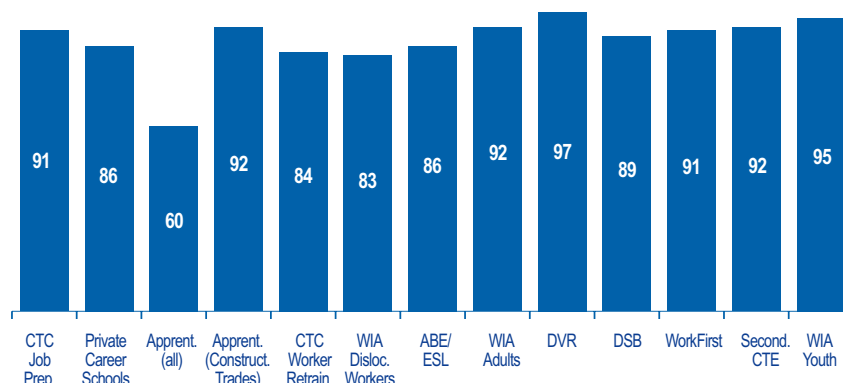
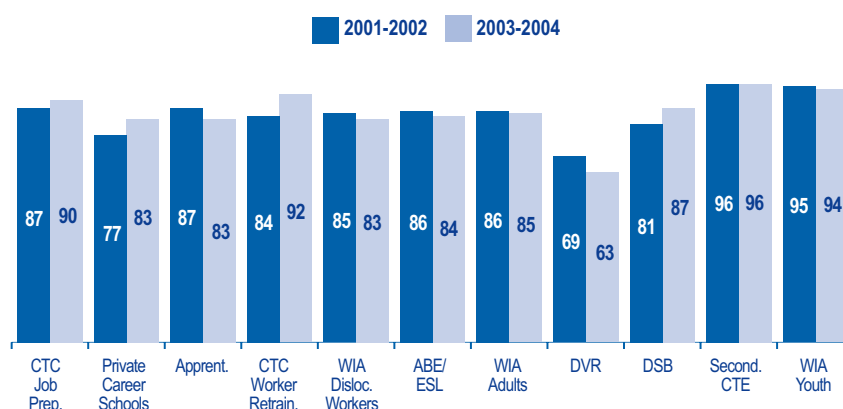


FIGURE 11
Participants Satisfied With Their Program
(percentages)



Although results vary by program, the aspect that tends to have the lowest participant satisfaction was advice on selecting a training program. Most participants reported receiving the support services they needed while participating in their program. Many participants in several programs, however, reported an unmet need for information about job openings similar to earlier evaluations.¹²

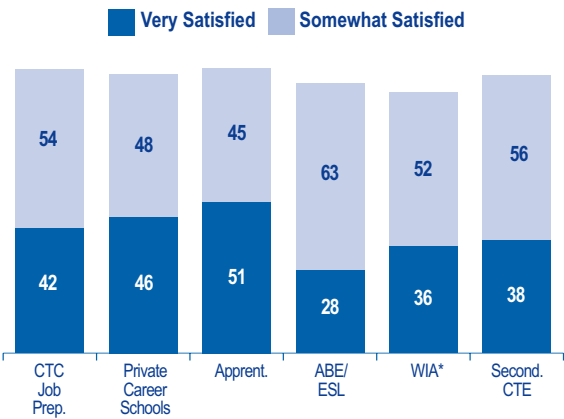
Employer Satisfaction

Desired Outcome: Workforce development participants and their employers are satisfied with workforce development services and results.

Employers were generally satisfied with the overall work quality of new employees who recently completed one of these programs (Figure 12).¹³ Still, there is substantial room for improvement in the percentages of employers reporting they are “very satisfied” with the overall work quality of new hires.

In terms of being “very satisfied,” employers tended to rate the job-specific skills of new employees highly (Figure 13).¹⁴ Across programs, employers tended to be most satisfied with the computer skills of their new hires.

FIGURE 12 Employers Satisfied With Overall Work Quality of New Employees Who Recently Completed a Program (percentages)



*Refers to all WIA participants (adults, dislocated workers, and youth).

Return on Investment

Desired Outcome: Workforce development programs provide returns that exceed program costs.

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. This report presents the findings of the net impact study conducted in 2006 which examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.¹⁵

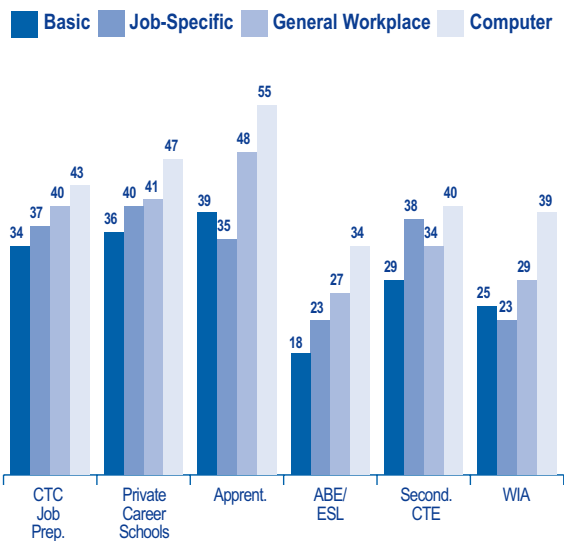
¹² Unmet need refers to cases where the student reports that either they did not receive the required service or what was provided did not meet their needs.

¹³ Employers were not questioned as to whether they hired recent participants of CTC Worker Retraining, DVR, or DSB programs. Therefore, those programs are not included in Figures 12 and 13.

¹⁴ For basic skills and general workplace skills, the percentage of “very satisfied” was an average across categories. Basic skills include math, reading, and writing. General workplace skills include teamwork, problem solving, communication, work habits, accepting supervision, and adaptability to change.

¹⁵ The net impact and cost-benefit analyses did not include the WorkFirst program.

FIGURE 13 Employers Very Satisfied With Skills of New Employees (percentages)



These evaluations attempt to estimate what happens to program participants as compared to what would have happened if they had not participated in a workforce development program. The objective is to determine the difference the program made for the participant. The Workforce Board contracted with the W.E. Upjohn Institute for Employment Research (Upjohn) to conduct the net impact and cost-benefit evaluations.

Individuals who participated in these workforce development programs were compared to similar individuals who did not. For most of the programs, the comparison group was selected from registrants with the state's employment service. A different source of data was used for the comparison group for Secondary CTE and for DVR and DSB clients. The Office of Superintendent of Public Instruction collects data on high school seniors. This Graduate Follow-Up Study was used to identify both students completing a CTE sequence, as well as comparable students who had not. For both DVR and DSB the comparison group was selected from eligible applicants who left the program before starting a service plan. An empirical approach, called statistical matching, was used to find the employment service registrant, secondary student, DVR client, or DSB client who most closely matched each program participant in terms of a long list of characteristics.¹⁶

For the cost-benefit analyses, Upjohn calculated the value of the net impacts on participant earnings, employee benefits, social welfare benefits, unemployment insurance (UI) benefits, and taxes.¹⁷ Benefits and costs were estimated for both the observed postprogram period and out to age 65.¹⁸

Upjohn found that during the third year after program participation, the payoffs to education and training are strong and pervasive (Figure 14). The employment impacts for all programs are positive. Most programs, with the exception of ABE/ESL,

increased the average lifetime earnings of participants. The combined effects on average earnings and employment rates result in sizable impacts on total lifetime earnings.

Figure 15 compares lifetime participant benefits to public costs. For example, during the course of working life to age 65, the average CTC Job Preparatory participant will gain about \$106,000 in net earnings (earnings minus foregone earnings while in training) and employee benefits. These are net gains compared to the earnings of similar individuals who did not receive training (discounted at 3 percent and expressed in 2005 Q1 dollars). For

¹⁶These include demographics (e.g., race and ethnicity, gender, disability status, prior education, age, region or the state), preprogram earnings and employment history, UI benefit receipt history, and preprogram receipt of public assistance.

¹⁷Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

¹⁸In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars.

FIGURE 14 Longer-Term Participant Benefits

	Employment	Quarterly Earnings	Lifetime Earnings*
CTC Job Preparatory	6.7%	\$1,008	\$90,455
Private Career Schools	4.3%	\$343	\$29,719
Apprenticeship	6.8%	\$2,281	\$205,825
CTC Worker Retraining	4.6%	\$298	\$21,128
WIA Dislocated Workers	6.4%	\$752	\$45,544
ABE/ESL	5.9%	**	\$0
WIA Adults	6.6%	\$443	\$29,945
DVR	11%	\$688	\$45,850
DSB	20.3%	\$1,492	\$78,429
Secondary CTE	5.4%	\$416	\$38,041
WIA Youth	10.3%	\$317	\$27,780

*This is the increase in earnings (above that of the comparison group) projected to age 65 and discounted at 3 percent.

** Not statistically significant at the 0.05 level.

Includes effects from increased employment and increased earnings among those employed.

CTC Job Preparatory participants, the ratio of participant benefits to program costs, not considering impacts on social welfare benefits or taxes, is \$106,237 to \$7,560 or about 14 to 1. Lifetime participant benefits far exceed public costs for each of the programs, with the exception of ABE/ESL.

Tax revenues are affected by the change in participant earnings (Figure 15). For example, during the entire post training period to age 65, the public gains an estimated \$15,603 in tax revenues for each CTC Job Preparatory participant. Estimated increases in tax receipts alone outweigh public costs for six of the eleven programs in the study. Moreover, many of the programs were found to reduce reliance on social welfare (specifically TANF, food stamps, and medical benefits).

FIGURE 15 Participant Benefits, Increases in Tax Receipts, and Public Costs to Age 65

	Participant Benefits*	Increased Tax Receipts**	Public Costs***
CTC Job Preparatory	\$106,237	\$15,603	\$7,560
Apprenticeship	\$270,988	\$53,515	\$2,546
Private Career Schools	\$35,369	\$5,126	\$0
CTC Worker Retraining	\$19,459	\$5,494	\$5,172
WIA Dislocated Workers	\$44,399	\$11,841	\$6,757
ABE/ESL	\$0	\$0	\$2,453
WIA Adults	\$34,874	\$5,166	\$5,481
DVR	\$55,633	\$7,909	\$8,114
DSB	\$83,472	\$13,529	\$23,243
Secondary CTE	\$45,680	\$6,562	\$924
WIA Youth	\$33,336	\$4,792	\$6,314

Notes: Benefits, receipts, costs are expressed in 2005 Q1 dollars.
* Present value of the additional lifetime earnings and employee benefits less foregone earnings during program participation.
** Present value of additional social security, Medicare, federal income, and state sales taxes generated by increased participant earnings to age 65.
*** Includes state and federal program costs per participant, with the exception of student financial aid programs.

COMMUNITY AND TECHNICAL COLLEGES JOB PREPARATORY TRAINING

Washington State's 34 community and technical colleges offer job preparatory training that provides students with skills required for specific occupations. Community and Technical Colleges (CTC) Job Preparatory training does not include students who intend to transfer to a four-year college or university; students who enroll in a program to raise their basic skills to a high school level; or working adults who take a few classes to improve skills for their current jobs. While the Worker Retraining program at the community and technical colleges also provides occupational training, the results for students who participated in this program are evaluated separately.

During the 2003-2004 school year, 30,335 CTC Job Preparatory students completed or otherwise left the community or technical college system.¹⁹ These students comprise the Job Preparatory cohort included in this study. The median length of enrollment for these students was 12 months.

This study includes information from students' college enrollment records; Employment Security Department (ESD) wage files from Washington, Idaho, and Oregon; and federal employment records. In addition, 1,853 students completed a telephone survey, providing additional data on employment and their satisfaction with the training.²⁰ Employer satisfaction information was collected through a survey conducted during the summer of 2005; 423 firms that hired new employees who recently completed a Job Preparatory program responded to the survey.

Participant Characteristics

Students from racial and ethnic minority backgrounds continued to be well represented among CTC Job Preparatory participants (Figure 1).²¹ They also made

up a similar percentage of total program completers, although for particular subpopulations, completion rates were lower.

Of the 2003-2004 CTC Job Preparatory students, 57 percent are women up from 55 percent in 2001-2002. Of the 2003-2004 completers, 59 percent are women.

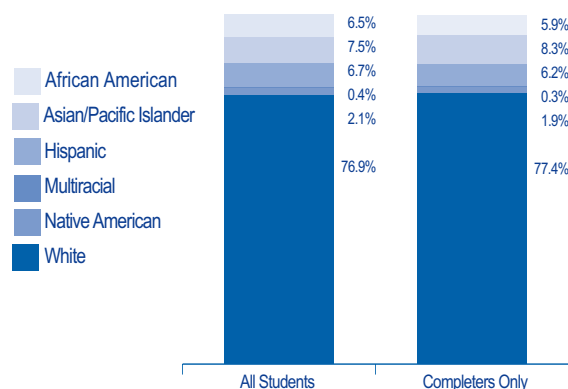
When they enrolled, 53 percent of the students did not previously attend college; 24 percent attended college without receiving a credential; 13 percent had a certificate or associate degree; and 10 percent had a baccalaureate or higher degree. The median age upon leaving training was 31—one quarter was under the age of 23, and another quarter was over 42.

¹⁹CTC Job Preparatory students identified themselves as vocational students and either enrolled for six or more vocational credits or completed three or more vocational credits. Additionally, the students included in this study exited their program during the 2003-2004 academic school year and did not enroll in a community or technical college for a period of one full year.

²⁰The responses to the participant survey were weighted to reflect the distribution of Job Preparatory students who left their program in 2003-2004 across workforce development areas.

²¹In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those ages 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 CTC Job Preparatory Students and Completers by Race and Ethnicity



Competency Gains

Of CTC Job Preparatory students, 58 percent completed their programs—18 percent received an associate degree; 18 percent received a vocational certificate; 13 percent were deemed ready for work because they completed 45 or more credits, and 10 percent completed a noncredit vocational program that led to a certificate.²² While a similar 58 percent of those leaving in 2001-2002 completed their program,

a lower percentage left with a certificate or degree—15 percent received an associate degree; 14 percent received a vocational certificate; 15 percent were deemed ready for work because they completed 45 or more credits; and 14 percent completed a noncredit vocational program that led to a certificate.

The primary goal of workforce training and education is to provide individuals with the skills and abilities required in the workplace. CTC Job Preparatory students appear to agree. Eighty-five percent of the 2003-2004 CTC Job Preparatory students cited “to learn skills for a new job” as their most common reason for enrolling in college, which is similar to 2001-2002 participants. In addition to learning job-specific skills, students also receive other types of training (Figure 2). In comparison to 2001-2002 students, those from 2003-2004 appear to have received a wider variety of skills training. Much higher percentages reported receiving training in teamwork, computer, writing, and diversity skills. A much lower percentage, however, reported receiving training in machinery operations.

FIGURE 2 CTC Job Preparatory Students Receiving Various Skills Training (percentages)

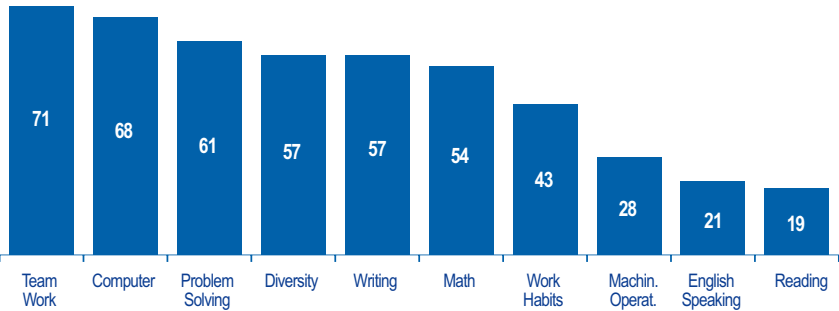
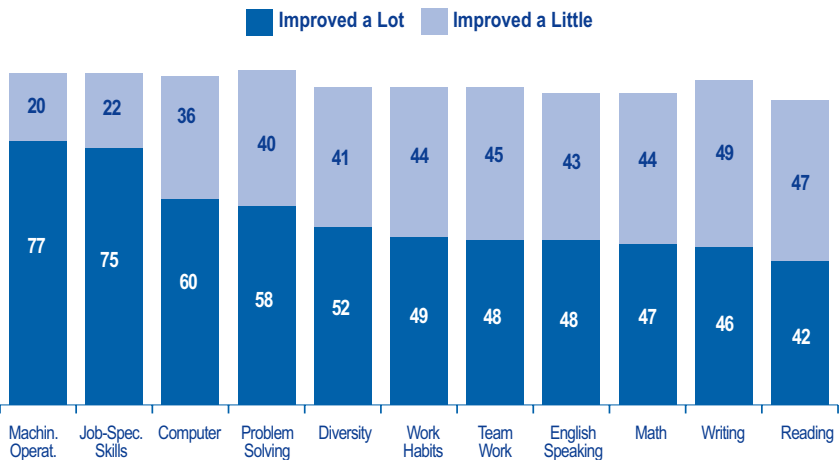


FIGURE 3 CTC Job Preparatory Students Receiving Various Skills Training Who Reported Their Skills Improved a Little or a Lot (percentages)



As in the previous study, most students reported their skills improved as a result of training, and higher percentages report substantial improvements in their technical skills than in their general workplace or basic academic skills (Figure 3). Across all skills training, higher or similar percentages of the 2003-2004 students reported their skills improved “a lot” compared to two years ago.

Among students employed seven to nine months after leaving the program, 73 percent reported their education and training was related to their job, up from 67 percent two years ago.

²²Upon exiting a college, the system determines whether the student is considered to have completed the program. The percentages do not sum to 58 percent due to rounding.

Participant Satisfaction

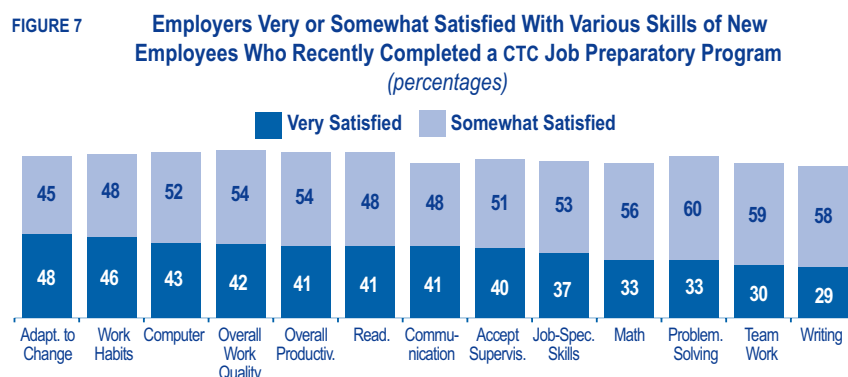
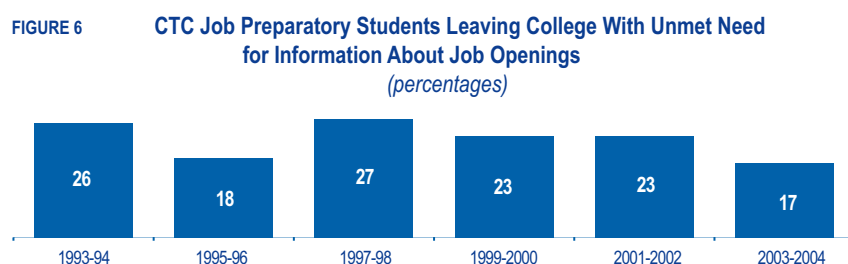
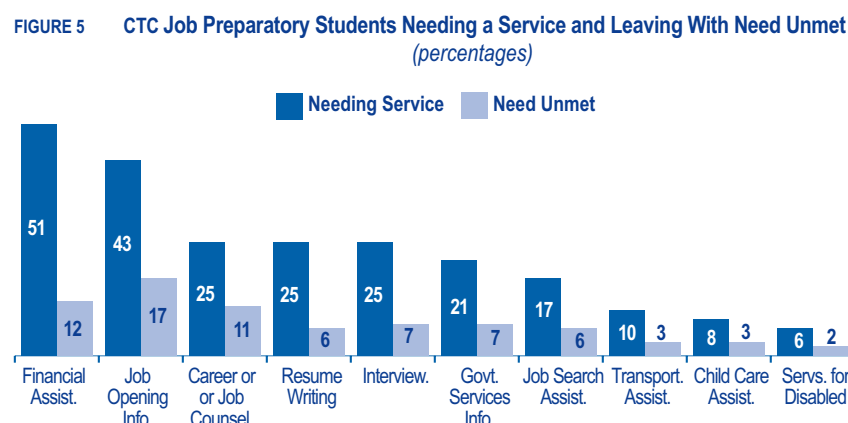
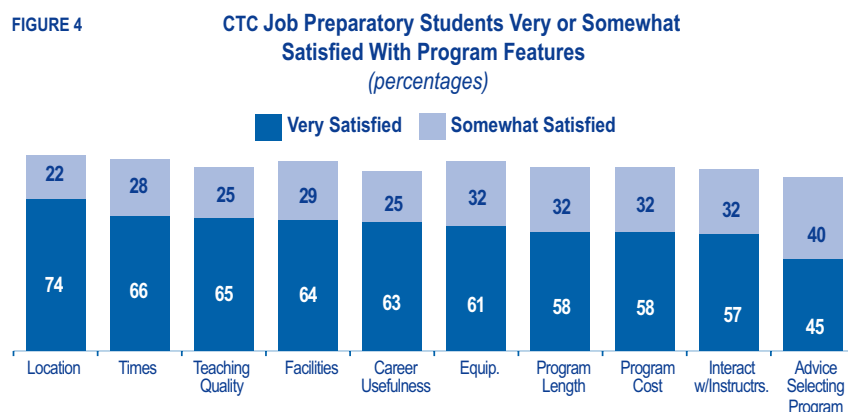
The 2003-2004 CTC Job Preparatory students expressed similar high levels of satisfaction as in previous studies. Eighty-eight percent of students reported they had met their educational objectives. Ninety-one percent reported they were “very satisfied” or “somewhat satisfied” with the program as a whole. Students tended to be “very satisfied” with various features of their programs including location, times offered, quality of teaching, facilities, and usefulness of the program to their career (Figure 4). They were less satisfied with advice on selecting a training program.

Similar to previous studies, students indicated financial assistance and information about job openings as the support services they most needed while enrolled (Figure 5). Students tended to receive the support services they needed. The exception continues to be information about job openings; however, a smaller percentage of the 2003-2004 students compared to previous cohorts reported such an unmet need (Figure 6).²³

Employer Satisfaction

The employer satisfaction survey asked firms to evaluate new employees who had recently completed a vocational program at a community or technical college. Ninety-six percent of employers said they were either “somewhat satisfied” or “very satisfied” with the overall work quality of these new employees; this is virtually the same percentage as in the previous survey. While high percentages of employers in both surveys were satisfied with the various skills of their new employees, the percentages who were “very satisfied” were lower in this survey (Figure 7).

²³Those with unmet need include students who needed a service but either did not receive it or what they received did not meet their needs.



There are some differences in the skills satisfactory to employers. In the previous survey, firms tended to be “very satisfied” with the reading and job-specific skills of their new employees and less with problem solving, math, adaptability to change, and writing. In this current survey, employers tended to be “very satisfied” with adaptability to change and work habits and less likely to be “very satisfied” with writing, teamwork, problem-solving, and math skills.

Employment and Earnings

According to the participant survey responses, 81 percent of CTE Job Preparatory students were employed during the period seven to nine months after leaving their program (Figure 8).²⁴ To find out more about the students’ postprogram employment and earnings, we matched student records with ESD wage files from Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with

employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found 72 percent of the 2003-2004 students had reported employment during the third quarter after they left their program. Their median hourly wage²⁵ was \$13.06, and they had median annualized earnings of \$22,456. The median wage of Job Preparatory students is relatively high, but there is considerable variation in wages. While one quarter earned more than \$18.17 an hour, another quarter had jobs that paid less than \$9.88 an hour.

²⁴In the survey, students were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

²⁵All wages and earnings are stated in 2005 Q1 dollars.

FIGURE 8 Employment and Earnings of CTC Job Preparatory Students in the Third Quarter After Leaving Program

	1995-96 All	1997-98 All	All	1999-2000 Completers	All	2001-2002 Completers	All	2003-2004 Completers
Percentage self-reporting employment during third quarter after leaving program	86	83	86	na	82	na	81	na
Percentage with employment reported by employers to ESD during the third quarter after leaving program	62	73	74	77	71	74	72	75
Median quarterly hours worked, of those working	452	451	468	481	455	455	450	451
Percentage employed full-time (averaging 30 or more hours/week) of those working	63	65	66	68	62	64	62	63
Median annualized earnings of those working	\$19,348	\$21,642	23,278	\$25,078	\$22,235	\$23,192	\$22,456	\$23,486
Median annualized earnings of those working and not enrolled in further education		\$21,733	\$23,367	\$25,182	\$22,313	\$23,227	\$22,603	\$23,741
Size of household in which median earnings would support at poverty level	4.0	4.7	5.2	5.8	4.9	5.2	5.0	5.3
Size of household in which median earnings would support at twice poverty level	1.0	1.4	1.6	1.9	1.5	1.6	1.5	1.7
Median hourly wage of those working	\$11.32	\$12.18	\$13.16	\$13.70	\$13.01	\$13.33	\$13.06	\$13.37
Percentage self-reporting receipt of medical benefits from employer	67	65	68	na	71	na	72	na
Percentage self-reporting receipt of pension benefits from employer	44	43	46	na	48	na	52	na

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

Employment among CTC Job Preparatory students is concentrated in the services, retail trade, public administration, and manufacturing industries (Figure 9). Compared to employment of the 2001-2002 cohort, much higher percentages of those from 2003-2004 were employed in the education services, health care services, and public administration industries, and much lower percentages were employed in manufacturing and retail trade industries.

Employment and earnings varied by gender, race and ethnicity, and disability status. Female and male students were equally likely to be employed in the third quarter after leaving their programs. Among those with employment, however, the median

earnings for female students were 79 percent of males; their median hourly wage was 91 percent of males. One reason for the earnings gap is that women were less likely to be employed full time (58 percent versus 67 percent). Another reason is women and men choose to enroll in different types of programs. Although women do enroll in high-wage programs—they account for 9 out of every 10 students in associate degree nursing and dental hygienist programs—many more enroll in programs that pay relatively low wages. Over one-third of the women were enrolled in six relatively low-wage programs: administrative support, early childhood education, nursing assistants, social services, cosmetology, and teaching/library assistants. Only 6 percent of male students were enrolled in these programs.

African Americans and Native Americans were less likely than whites to be employed in the third quarter after leaving their programs. Of those employed, the median earnings for Native Americans were 86 percent of whites, for African Americans 87 percent, and for Hispanics 92 percent. Compared to white students, Native American, African American, and Hispanic students are less likely to have enrolled in higher wage programs.

Employment outcomes and earnings also varied by disability status. College records indicate 7 percent of the students included in this study had a disability. These students were less likely to have employment during the third quarter after exit (51 percent versus 73 percent). They were also less likely to work full time (52 percent versus 62 percent). Among those working, the median hourly wage rate of those with a disability was 83 percent of those without a disability, and their median earnings were 71 percent of those with no reported disability.

FIGURE 9 Industry of Employment of CTC Job Preparatory Students in the Third Quarter After Leaving Program: 2003-2004

Industry Group	Employment
Natural Resources and Mining	1.0%
Construction	3.8%
Manufacturing	7.2%
Aerospace	1.6%
All Other Manufacturing	5.6%
Wholesale Trade	2.7%
Retail Trade	12.4%
Transportation, Warehousing, and Utilities	3.0%
Information	1.9%
Financial Activities	5.1%
Services	53.5%
Professional, Scientific, and Technical	4.1%
Administrative and Support, and Waste Management and Remediation	7.4%
Education	6.1%
Health Care	19.1%
Social Assistance	4.0%
Arts, Entertainment, and Recreation	1.7%
Accommodation and Food	6.5%
All Other Services	4.6%
Public Administration	9.4%
Correctional Facilities	4.3%
All Other Public Administration	5.1%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left workforce development programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in a CTC Job Preparatory program were compared to those who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the program (or from the employment service) in fiscal year 2003-2004 and longer-term impacts for individuals who exited in fiscal year 2001-2002.

CTC Job Preparatory training has strong positive net impacts on employment, wages, hours worked, and earnings. Training substantially increases the lifetime earnings of participants.

Figure 10 shows the short-term net impacts of CTC Job Preparatory training. During the third quarter after the 2003-2004 students left their programs, training is associated with an increase of 9.2 percentage points in employment as reported to ESD. The impact on wage rates is \$3.24²⁶ per hour, and the impact on hours worked per quarter is 71.3 hours. There is a large

impact on mean quarterly earnings—\$1,564. Training is associated with decreases in the percentage receiving UI benefits and public assistance.

The longer-term net impacts of training are observed 9 to 12 quarters after students left the college during the 2001-2002 school year (Figure 11). There are strong, positive net impacts of training on employment,

²⁶All dollar amounts are expressed in 2005 Q1 dollars.

FIGURE 10 Short-Term Net Impact Results for CTC Job Preparatory Students Who Left the Program During PY 2003-2004

	All Students	Program Completers
Employment: percentage in		
reported employment	9.2	12.9
Mean Hourly Wage	\$3.24	\$4.07
Mean Hours Worked Per Quarter	71.3	89.2
Mean Quarterly Earnings	\$1,564	\$1,924
TANF: percentage receiving	-0.5	-0.3
Food Stamps: percentage receiving	-4.1	-4.4
Medical Benefits: percentage receiving	-3.0	-3.1
UI: percentage receiving	-1.2	-1.4

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.

FIGURE 11 Longer-Term Net Impact Results for CTC Job Preparatory Students Who Left the Program During PY 2001-2002

	All Students	Program Completers
Employment: percentage in		
reported employment	6.7	9.5
Mean Hourly Wage	\$2.06	\$3.18
Mean Hours Worked Per Quarter	39.7	56.6
Mean Quarterly Earnings	\$1,008	\$1,529
TANF: percentage receiving	0.6	0.8
Food Stamps: percentage receiving	-0.4*	-0.1
Medical Benefits: percentage receiving	-0.2*	-1.3
UI: percentage receiving	-2.7	-2.3

Notes: Long-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

hourly wage, hours worked, earnings, and reduction in the percentage receiving UI benefits in the longer-term. However, despite training, there is a slightly higher percentage receiving Temporary Assistance to Needy Families (TANF) benefits.

The data allowed for separate analysis of both students who completed their training and those who left before completing. Both short-term and longer-term net impacts of training are greater for completers, indicating the value of students completing their programs.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.²⁷ Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for students leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each student in CTC Job Preparatory training, the public (taxpayer) cost is \$7,560 over the length of their enrollment, and the student cost is \$3,869 in tuition and \$2,309 in foregone earnings while training (Figure 12). During the first two and one-half years after leaving college, the average trainee will gain \$13,644 in earnings. During the course of working life to age 65, the average trainee will gain about \$88,100 in net earnings (earnings minus foregone

earnings) and about \$18,100 in employee benefits.²⁸ These are net gains compared to the earnings of similar individuals who did not receive the training.

*Projected participant benefits to age 65 outweigh public costs invested in college training by a ratio of about fourteen to one, or \$102,368 to \$7,560.*²⁹

Over the lifetime of the participant, the total public (taxpayer) costs is less than the program costs because the training is associated with increased tax revenues and decreased state social welfare expenditures. From the time of leaving training to age 65, the public is forecasted to gain over \$15,600 per participant in additional social security, Medicare, and federal income and state sales taxes, and to save over \$1,300 per participant in total UI benefits and other social welfare costs—far greater than the direct cost of college training.

²⁷Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

²⁸This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$17,600.

²⁹This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

FIGURE 12 Benefits and Costs of CTC Job Preparatory Training

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$13,644		\$90,455	
Employee Benefits	\$2,729		\$18,091	
Taxes	-\$2,354	\$2,354	-\$15,603	\$15,603
Transfers*	-\$1,796	\$1,796	-\$1,324	\$1,324
Costs				
Foregone Earnings	-\$2,309		-\$2,309	
Program Costs**	-\$3,869	-\$7,560	-\$3,869	-\$7,560
TOTAL	\$6,045	-\$3,410	\$85,442	\$9,367

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

* Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

** Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.

Areas for Improvement

The large majority of students were satisfied with their college training program. Most students obtained jobs that paid a decent wage, and received the support services they needed while enrolled. Many students, however, continue to report they left their programs with their need for information on job openings unmet.

Despite the fact that slightly higher percentages of students earned degrees or certificates compared to two years ago, the completion rate remains at 58 percent. Colleges should strive to increase the rates of successful completions.

The colleges might do more to eliminate gender and racial and ethnic differences in the labor market outcomes. Efforts to recruit women and minorities into higher wage programs should continue and may be facilitated by enhanced assistance in selecting a training program, another area of need. There should also be efforts to improve labor market outcomes for participants with disabilities.

The median age of CTC Job Preparatory students remains high. Colleges should continue efforts to increase enrollments in these programs among young people.

PRIVATE CAREER SCHOOLS

Private career schools are independent businesses that provide students with training in a variety of occupations. No public funds are appropriated for private schools, but eligible students may:

- Obtain federal grants and loans to pay for educational expenses if the school they choose has been authorized to participate in federal student aid programs.
- Secure funding under the state's Worker Retraining program.
- Use "Individual Training Account" vouchers, funded under the Workforce Investment Act (WIA) Title I-B.

There are roughly 351 private career schools in Washington State. The Workforce Training and Education Coordinating Board (Workforce Board) licenses 254 certificate-granting vocational institutions. The Higher Education Coordinating Board authorizes 17 private schools that grant associate degrees (10 of which also grant baccalaureate degrees). The state's 80 cosmetology schools are regulated by the Department of Licensing. Only the schools licensed by the Workforce Board are included in this study.

This study is based on information from 183 certificate-granting schools licensed by the Workforce Board that reported sufficient data. Program records were collected on 17,099 students who left programs during the 2003-2004 school year.³⁰ The median length of enrollment for these students was four months. However, the lengths of Private Career School programs vary widely, and in 2003-2004, one quarter of the students had enrollment lengths greater than ten months, while another quarter had enrollment lengths of less than one month.

The study includes information from student enrollment records; Employment Security Department (ESD) wage files from Washington, Idaho, and Oregon; and federal employment records. In addition, 203 students completed a telephone survey, providing additional data on employment and their satisfaction with the training. Employer satisfaction information was obtained through a survey administered during the summer of 2005; 316 firms that hired new employees who recently completed a Private Career School program responded to the survey.

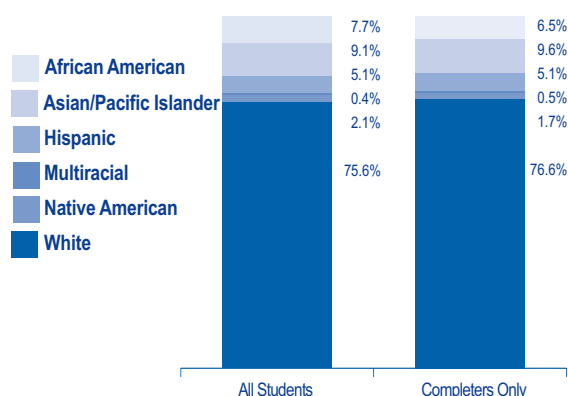
Participant Characteristics

People of color continue to be well represented among private career school students (Figure 1).³¹ The percentage of students from African American

³⁰These data do not provide full coverage of the private career school sector. However, coverage is improving. The evaluation for 2001-2002, for example, was based on records for 16,543 students from 170 schools. In 2003-2004, there were 254 Workforce Board-licensed private career schools. Of those not included in this study, 23 were new schools or school under new management and, therefore, did not have exiters in 2003-2004; 14 were existing schools that had no exiters in 2003-2004; and 9 schools provided no data or insufficient data to be included in this study.

³¹In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 Private Career School Students and Completers by Race and Ethnicity



backgrounds was particularly noteworthy: African Americans accounted for nearly 8 percent of the students, but they represent only 3 percent of the state's population (ages 16-74). In general, the racial and ethnic makeup of those who successfully completed their Private Career School program mirrors the distribution of all Private Career School students who left the program in 2003-2004.

Of the 2003-2004 Private Career School cohort, 56 percent were women, up from 51 percent in 2001-2002. Of the completers, 55 percent were women.

The typical (median) student was age 28 when enrolled; one quarter was under the age of 22 and another quarter was over 40. When they enrolled, 72 percent had not previously attended college; 15 percent had attended college without receiving a credential; 7 percent had a certificate or associate's degree; and 6 percent had a baccalaureate or higher degree.

Competency Gains

Of the students who left private career schools in 2003-2004, 78 percent completed their program; this was up from the 72 percent of those leaving in 2001-2002 who had completed their programs.

According to the survey results, 90 percent of students indicated they entered a private career school to learn skills for a new job; the same percentage that so indicated two years ago. In addition to job-specific skills, students received other types of training (Figure 2). As in previous studies, the majority of students also received training in computer and workplace skills. Fewer, however, received training in machinery operation and basic skills.

For both 2001-2002 and 2003-2004, students tended to report their skills improved as a result of training. Students were more likely to report "a lot" of improvement in technical skills, such as job-specific skills and machinery operations, and less likely to

report "a lot" of improvement in workplace skills, such as teamwork, work habits, and in basic skills (Figure 3). A much higher percentage of the 2003-2004 students reported "a lot" of improvement in job-specific skills (74 percent versus 66 percent).

FIGURE 2 Private Career School Students Receiving Various Skills Training (percentages)

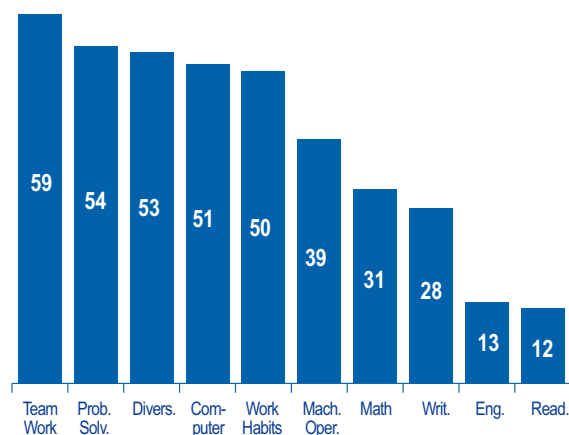
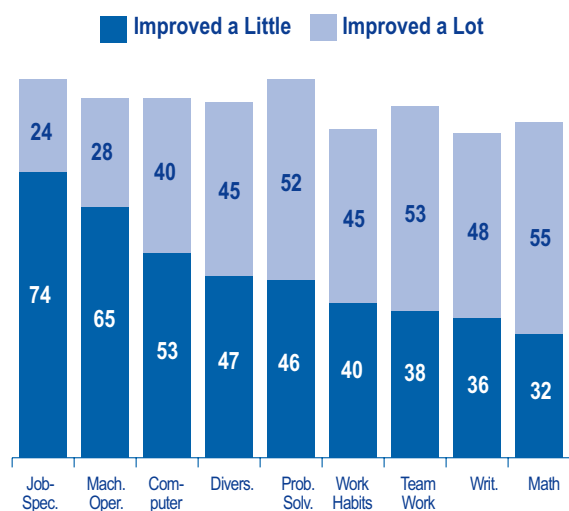


FIGURE 3 Private Career School Students Receiving Various Skills Training Who Reported Their Skills Improved a Little or a Lot (percentages)



Among those employed after training, 62 percent stated their job was related to the training they received; virtually the same percentage as reported by the 2001-2002 students.

Participant Satisfaction

The 2003-2004 students reported higher levels of satisfaction with their programs than those in 2001-2002. Eighty-four percent reported they had met their educational objectives compared to seventy-eight percent who so reported two years ago. Eighty-one percent indicated they were “very satisfied” or “somewhat satisfied” with their program as a whole; two years ago, seventy-five percent reported this level of satisfaction. When asked about specific program features, satisfaction tended to be highest with times and the quality of teaching. Satisfaction tended to be lower with the program cost and advice on selecting a program (Figure 4).

Similar to previous studies, students cited information about job openings and financial assistance as support services most needed while enrolled (Figure 5). In most cases, services needed were provided. Unfortunately, nearly one-fourth of students reported their need for information about job openings was not met; however, this was lower than the one-third two years ago.

Employer Satisfaction

The employer satisfaction survey asked firms to evaluate new employees who had recently completed a program at a private career school. Ninety-four percent said they were either “somewhat satisfied” or “very satisfied” with the overall work quality of these new employees; slightly less than the ninety-eight percent who so indicated in the previous survey (Figure 6). Compared to two years ago, much lower percentages of employers were “very satisfied” with new employees’ teamwork, acceptance of supervision, and job-specific skills.

FIGURE 4

Private Career School Students Very or Somewhat Satisfied With Program Features (percentages)

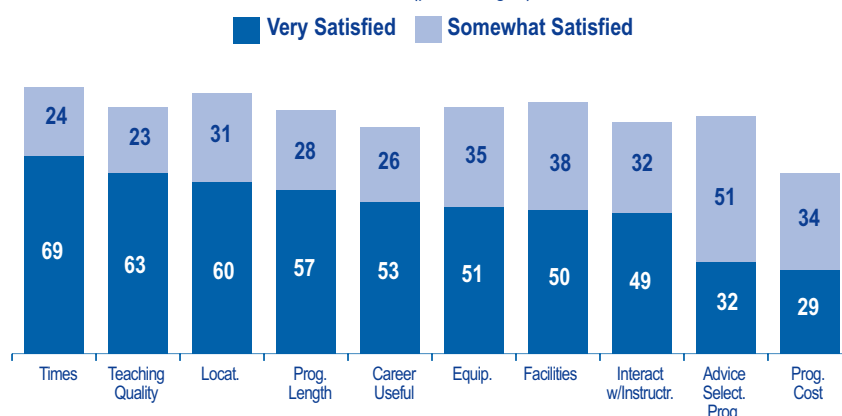


FIGURE 5

Private Career School Students Needing a Service and Leaving With Need Unmet (percentages)

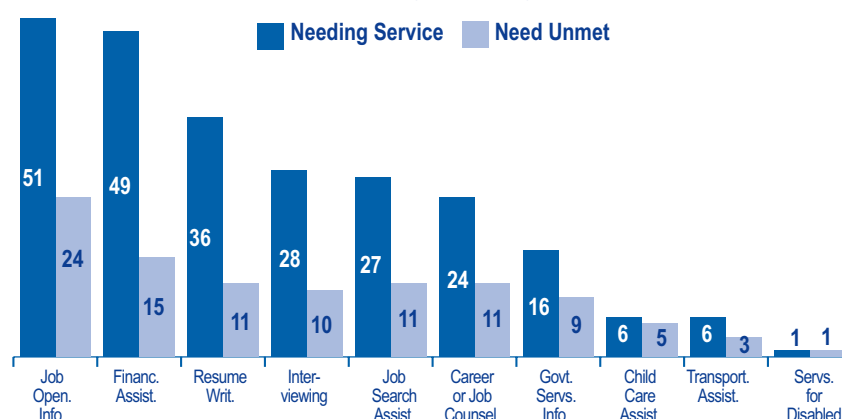
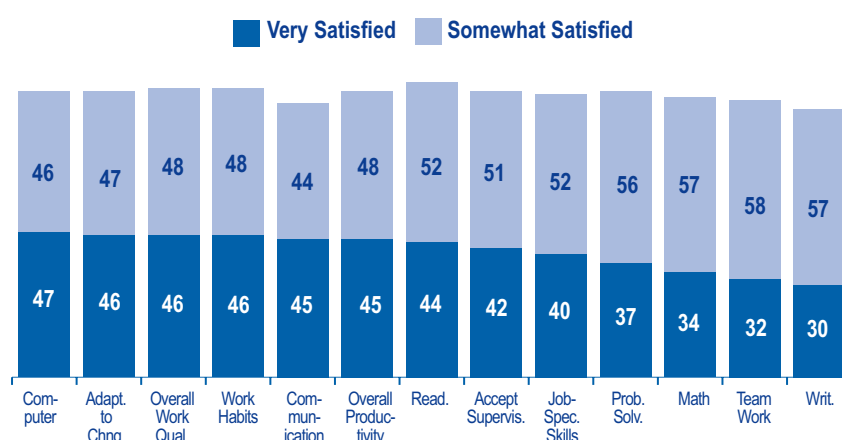


FIGURE 6

Employers Very or Somewhat Satisfied With Various Skills of New Employees Who Recently Completed a Private Career School Program (percentages)



Employment and Earnings

According to survey responses, 78 percent of the 2003-2004 students were employed during the period seven to nine months after leaving their program (Figure 7).³² To find out more about the students' postprogram employment and earnings, we matched student records with ESD wage files from Washington and neighboring states. These files contain information on only those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment, with self-employment, active military duty, and those working for religious, nonprofit organizations being the major groups of employers not included).

Record matches found 65 percent of the 2003-2004 Private Career School cohort had reported employment during the third quarter after they left their program. Their median hourly wage³³ was \$11.64, and they had median annualized earnings of \$18,849.

Compared to noncompleters, program completers were slightly more likely to be employed and working full time. Noncompleters had a median wage that was about 85 percent of completers.

³²In the survey, students were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

³³All wages and earnings are stated in 2005 Q1 dollars.

FIGURE 7 Employment and Earnings of Private Career School Students in the Third Quarter After Leaving Program

	1997-98 All	1999-2000 All	1999-2000 Completers	2001-2002 All	2001-2002 Completers	2003-2004 All	2003-2004 Completers
Percentage self-reporting employment during third quarter after leaving program	87	87	na	77	na	78	na
Percentage with employment reported by employers to ESD during the third quarter after leaving program	72	69	70	66	68	65	67
Median quarterly hours worked, of those working	448	450	463	428	443	428	439
Percentage employed full-time (averaging 30 or more hours/week) of those working	56	60	63	57	60	56	59
Median annualized earnings of those working	\$17,655	\$20,785	\$22,116	\$20,249	\$21,715	\$18,849	\$19,905
Size of household in which median earnings would support at poverty level	3.5	4.4	4.8	4.3	4.7	3.8	4.2
Size of household in which median earnings would support at twice poverty level	0.9	1.3	1.5	1.2	1.4	1.0	1.1
Median hourly wage of those working	\$10.08	\$12.07	\$12.45	\$12.20	\$12.65	\$11.64	\$11.99
Percentage self-reporting receipt of medical benefits from employer	68	71	na	64	na	68	na
Percentage self-reporting receipt of pension benefits from employer	33	39	na	36	na	36	na

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

As in the previous study, employment among Private Career School students is concentrated in services, especially health services and retail trade industries (Figure 8). Compared to two years ago, those leaving their programs in 2003-2004 were more likely to be in services and less likely to be in retail trade industries.

Employment and earnings varied by gender, race and ethnicity, and disability status. Female and male students were equally likely to be employed in the third quarter after leaving their programs. Females, however, were less likely to be employed full time (52 percent compared to 61 percent) and among those employed, their median hourly wage was 86 percent of males.

FIGURE 8 Industry of Employment of Private Career School Students in the Third Quarter After Leaving Program: 2003-2004

Industry Group	Employment
Natural Resources and Mining	1.0%
Construction	4.3%
Manufacturing	6.8%
Aerospace	1.5%
All Other Manufacturing	5.3%
Wholesale Trade	3.4%
Retail Trade	13.7%
Transportation, Warehousing, and Utilities	7.0%
Trucking	4.0%
All Other Transportation, Warehousing, and Utilities	2.9%
Information	2.0%
Financial Activities	4.6%
Services	55.6%
Professional, Scientific, and Technical	3.0%
Administrative and Support, and Waste Management and Remediation	10.7%
Education	2.7%
Health Care	19.8%
Social Assistance	2.4%
Arts, Entertainment, and Recreation	2.6%
Accommodation and Food	9.7%
All Other Services	4.7%
Public Administration	1.6%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Native American students were less likely than white students to be employed in the third quarter after leaving their programs (57 percent versus 66 percent). Asians/Pacific Islanders and Hispanics were more likely to be employed full time compared to whites (62 percent, 61 percent, and 55 percent, respectively). African Americans had a median wage that was 90 percent of whites, Hispanics and Native Americans had median wages that were about 94 percent of whites, and Asians/Pacific Islanders had median wages that were 96 percent of whites.

Employment outcomes and earnings also varied by disability status. College records indicate that about 2 percent of the students included in this study had a disability. Compared to students without disabilities, students with disabilities were less likely to have reported employment during the third quarter after exit (49 percent versus 65 percent). However, they were as likely to be working full time and have a similar median wage.

Net Impacts

Every four years the Workforce Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wage, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who attended a private career school were compared to individuals who had similar characteristics, but who

did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state’s employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and longer-term impacts for individuals who exited in fiscal year 2001-2002.

Private Career School programs have positive net impacts on employment, wages, hours worked, and earnings. Training increases the lifetime earnings of participants.

Figure 9 shows the short-term net impacts of Private Career School training. During the third quarter after the 2003-2004 participants left their programs, training is associated with an increase of 4.8 percentage points in employment as reported to ESD. The impact on hourly wage is \$1.86³⁴ per hour and the impact on hours worked per quarter is 40.7 hours. There is a positive net impact on mean quarterly earnings—\$686. Training is associated with decreases in the percentages receiving UI benefits and public assistance.

The longer-term net impacts of training are observed 9 to 12 quarters after participants left the schools during the 2001-2002 school year (Figure 10). There are also positive impacts of training on employment, hourly wage, hours worked, earnings, and reduction in the percentage receiving UI benefits in the longer-term. However, there are a slightly higher percentage of students receiving Temporary Assistance to Needy Families (TANF).

The data allowed for separate analysis of students who completed their training and those who left before completing. The short and longer-term net impacts of training are better for completers, indicating the value of students completing their programs.

³⁴All dollar amounts are expressed in 2005 Q1 dollars.

FIGURE 9 Short-Term Net Impact Results for Private Career School Students Who Left the School During PY 2003-2004

	All Students	Program Completers
Employment: percentage		
in reported employment	4.8	7.3
Mean Hourly Wage	\$1.86	\$2.26
Mean Hours Worked Per Quarter	40.7	52.5
Mean Quarterly Earnings	\$686	\$875
TANF: percentage receiving	-0.9	-1.4
Food Stamps: percentage receiving	-4.8	-6.7
Medical Benefits: percentage receiving	-3.3	-4.3
UI Benefits: percentage receiving	-0.9	-1.1

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.

FIGURE 10 Longer-Term Net Impact Results for Private Career School Students Who Left the School During PY 2001-2002

	All Students	Program Completers
Employment: percentage		
in reported employment	4.3	6.4
Mean Hourly Wage	\$1.03	\$1.61
Mean Hours Worked Per Quarter	21.0	34.9
Mean Quarterly Earnings	\$343	\$613
TANF: percentage receiving	0.7	0.1*
Food Stamps: percentage receiving	0.6*	-1.8
Medical Benefits: percentage receiving	0.4*	-1.2
UI Benefits: percentage receiving	-2.1	-2.0

Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.³⁵ Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by students. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for students leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each student in Private Career School programs, the public (taxpayer) cost is assumed to be \$0, and the student cost is \$294 in foregone earnings while training (Figure 11). There is also a student cost for tuition, which can be substantial. An average tuition cost per student was not determined because of the extremely wide variability among schools and training programs. During the first two and one-half years after leaving a school, the average trainee will gain about \$4,700 in earnings. During the course of working life to age 65, the average trainee will gain about \$29,400 in net earnings (earnings minus foregone earnings) and over \$5,900 in employee benefits.³⁶ These are net gains compared to the earnings of similar individuals who did not receive the training.

From the time of leaving training to age 65, the public is expected to gain over \$5,126 per participant in additional social security, Medicare, federal income and state sales taxes, and to save about \$940 in total UI benefits and social welfare costs.

FIGURE 11

Benefits and Costs of Private Career School Training

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$4,701		\$29,719	
Employee Benefits	\$940		\$5,944	
Taxes	-\$811	\$811	-\$5,126	\$5,126
Transfers*	-\$1,559	\$1,559	-\$941	\$941
Costs				
Foregone Earnings	-\$294		-\$294	
Program Costs**	**	\$0	**	\$0
TOTAL	**	2,370	**	\$6,067

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

*Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

**Participant program cost, i.e., tuition, is not included in this table because of the substantial variability across private career schools and training programs. Therefore, participant total could not be calculated. Program costs do not include student financial aid programs.

³⁵Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

³⁶This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. The foregone earnings for private career school students is relatively small, therefore, if the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about the same \$5,900.

Areas for Improvement

The majority of Private Career School students reported they were satisfied with their training, they were employed, their training was related to their jobs, and their job-specific skills increased “a lot.” Access to needed support services while enrolled was generally high.

There are, however, some areas for improvement. Despite the fact that the state’s economy had started to improve, there continued to be declines in postprogram employment and earnings.³⁷ Although improved since the last survey, one-fourth of

students left the schools with an unmet need for information on job openings. The wages of students differ by gender and race and ethnicity. Women earn less than men, and students from racial and ethnic minority backgrounds earn less than whites. Efforts should be made to recruit women and minorities into higher wage programs.

³⁷When interpreting Private Career School trend data, it is important to keep in mind that this sector, more than any other, has a changing institution composition over time. That is, existing entities are more likely to leave the sector and new entities are more likely to enter the sector over time than, for example, the community and technical college sector or the WIA workforce development area sectors.

APPRENTICESHIP

Apprenticeship in Washington is governed by the Washington State Apprenticeship and Training Council and administered by the Department of Labor and Industries. Apprenticeship combines classroom studies with extensive on-the-job training under the supervision of a journey-level craft person or trade professional. Apprentices receive wages, health, pension, and other benefits while learning occupational skills. Apprenticeships require applicants be at least 16 years old (18 for construction trades), and most require at least a high school diploma or GED for entrance.

For this study, administrative records were obtained for 2,713 apprentices who left a program during the 2003-2004 program year. Overall, apprentices spent a median of 29 months in their program. Among Apprenticeship completers, the median program length was 44 months.

This study includes information from the Employment Security Department (ESD) wage files from Washington, Idaho, and Oregon, and federal employment records. In addition, 149 apprentices completed a telephone survey, providing additional data on employment and their satisfaction with the training. Employer satisfaction information was collected through a survey conducted during the summer of 2005; 194 firms that hired new employees who recently completed an Apprenticeship program responded to the survey.

Participant Characteristics

Apprentices reflect the racial and ethnic diversity of the state population (Figure 1).³⁸ Minority groups, with the exception of Asians/Pacific Islanders, are represented at or above their proportions of the state population (ages 16-74). African Americans, Hispanics and Native Americans are not as well represented in the completer group as they are in the Apprenticeship group as a whole.

Relatively few women enter Apprenticeship programs; only 15 percent of the 2003-2004 apprentices were women. This is similar to the 13 percent of the 2001-2002 cohort.

The typical age at which apprentices entered their programs was quite high. The median age at enrollment was 28 years. One quarter of the apprentices was aged 36 or older.

Competency Gains

Of the apprentices leaving their program in 2003-2004, 40 percent completed their Apprenticeship program, which is about the same percentage of the 2001-2002 cohort who completed.

³⁸In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 Apprenticeship Participants and Completers by Race and Ethnicity

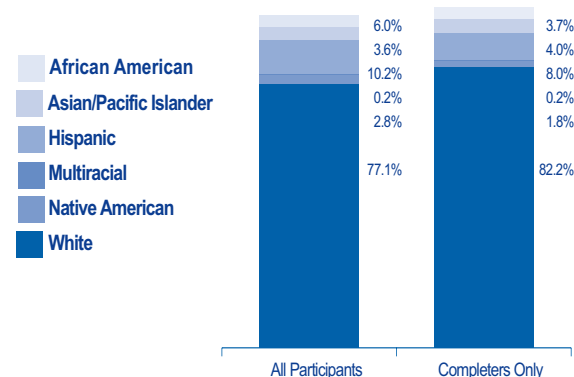
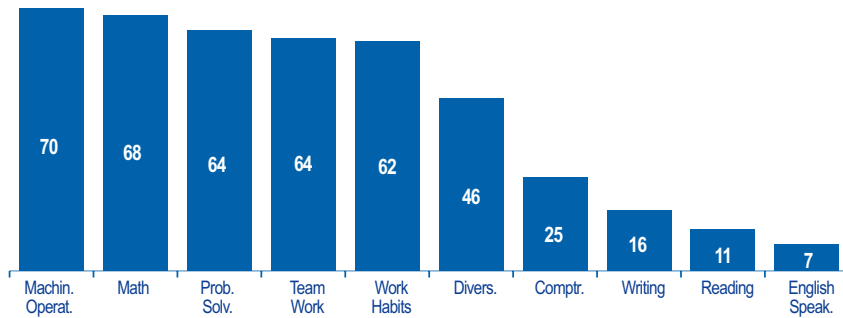


FIGURE 2 Apprentices Receiving Various Skills Training
(percentages)

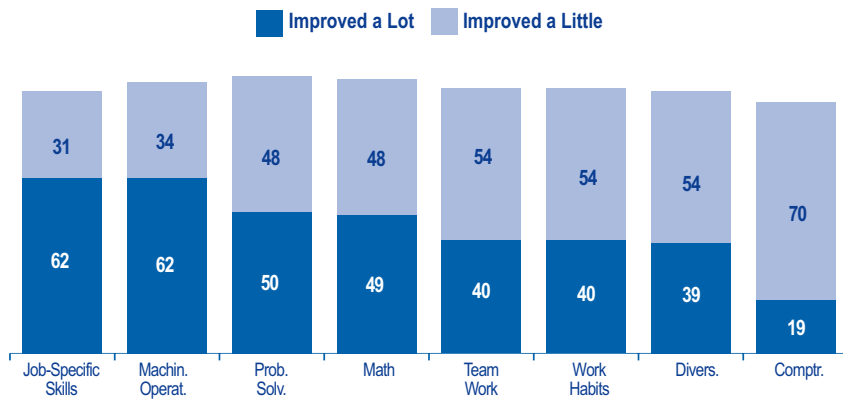


By definition, people enter an Apprenticeship program to acquire occupation- or industry-specific training. Many apprentices also receive training in general workplace skills such as teamwork and problem solving. They receive both classroom³⁹ and on-the-job training, and our survey asked apprentices about their experience with both.

Classroom Skills Training

As with the 2001-2002 cohort, these apprentices reported receiving classroom training in a variety of skills (Figure 2). With the exception of math, apprentices of both cohorts were least likely to receive basic skills training.

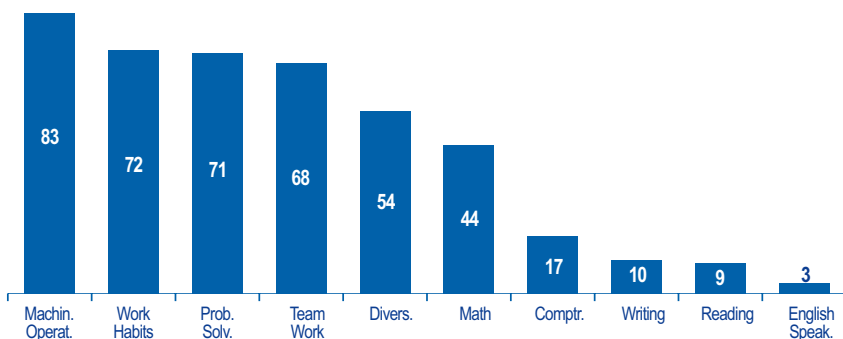
FIGURE 3 Apprentices Receiving Various Skills Training
Who Reported Their Skills Improved a Little or a Lot
(percentages)



In both the previous and current studies, apprentices reported their skills in many areas improved as a result of the classroom training (Figure 3). The 2003-2004 cohort, however, were less likely than the 2001-2002 cohort to indicate “a lot” of improvement in job-specific skills (62 percent versus 72 percent) and computer skills (19 percent versus 41 percent). Regardless, apprentices continued to report more substantial improvements in technical and math skills than in general workplace skills.

Among apprentices who were employed when surveyed, 85 percent reported their training was related to their job, slightly less than the 88 percent who so reported two years ago.

FIGURE 4 Apprentices Receiving On-the-Job Training in Various Skills
(percentages)



On-the-Job Skills Training

As in the previous study, high percentages of apprentices reported receiving on-the-job training in machinery operations and various workplace skills (Figure 4).

³⁹Apprentices are required to participate in at least 144 hours of classroom training annually.

Apprentices continue to rate improvements in various skills areas due to their on-the-job training highly (Figure 5). As expected, the highest percentages indicated “a lot” of improvement in their job-specific and machinery operation skills.

Participant Satisfaction

The 2003-2004 apprentices expressed similar high levels of overall satisfaction as in the previous study: 84 percent expressed satisfaction with their classroom training and another 84 percent with their on-the-job training. Eighty-two percent met their educational objectives by participating in the training, down slightly from the eighty-nine percent of the 2001-2002 apprentices. Apprentices were more likely to be “very satisfied” with the facilities and cost of their programs and less likely to be “very satisfied” with advice on selecting a training program and program length (Figure 6).

Apprentices reported a much lower need for support services than the other groups we studied. Their greatest needs were for information on job openings and financial assistance, and most of those who required support services received them (Figure 7).

Employer Satisfaction

The employer satisfaction survey asked firms to evaluate new employees who had recently completed an Apprenticeship program. Most employers were at least somewhat satisfied with all these skill categories (Figure 8). Comparisons to the previous survey indicate a much higher percentage of employers “very satisfied” with the following skills: computer (55 percent versus 31 percent), problem-solving (42 percent versus 25 percent), communications (50 percent versus 35 percent), adaptability to change (56 percent versus 44 percent), and overall work quality (51 percent versus 44 percent). A much lower percentage, however, indicated being “very satisfied” with job-specific skills (35 percent versus 54 percent) and teamwork (38 percent versus 50 percent).

FIGURE 5 Apprentices Receiving On-the-Job Training in Various Skills Who Reported Their Skills Improved a Little or a Lot (percentages)

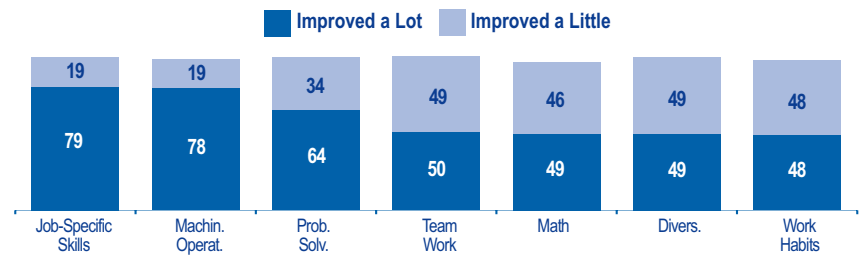


FIGURE 6 Apprentices Very or Somewhat Satisfied With Program Features (percentages)

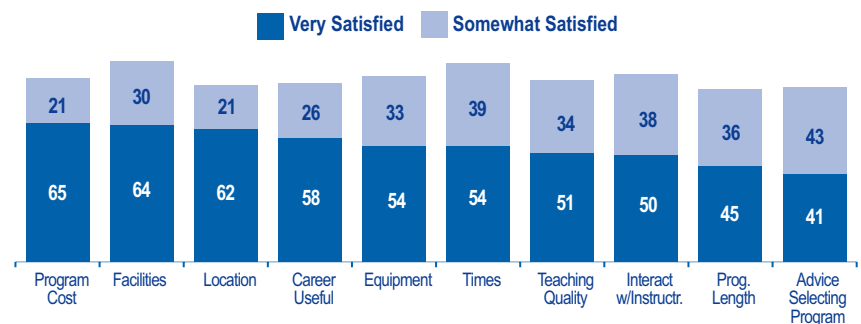
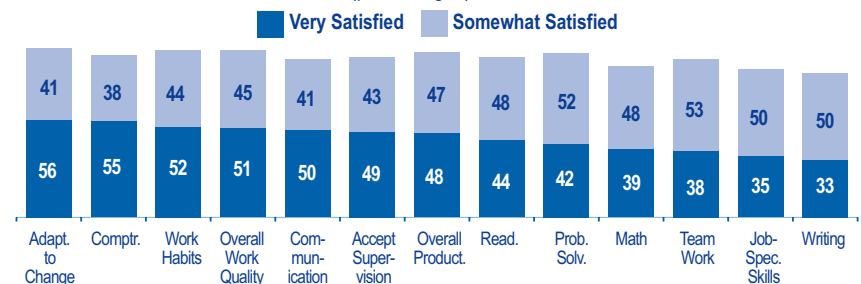


FIGURE 7 Apprentices Needing a Service and Leaving With Need Unmet (percentages)



FIGURE 8 Employers Very or Somewhat Satisfied With Various Skills of New Employees Who Recently Completed an Apprenticeship Program (percentages)



Employment and Earnings

Labor market outcomes for Apprenticeship programs are higher than for any other program we studied. In addition to the quality of Apprenticeship training and the wage levels in these occupations, this result may be due to the relatively long length of the program.

According to survey results, 87 percent of apprentices reported being employed seven to nine months after leaving training (Figure 9).⁴⁰ To find out more about the apprentices' postprogram employment and earnings, we matched participant records with ESD wage files from Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found 73 percent of apprentices had reported employment during the third quarter after they left the program. Their median wage⁴¹ was \$21.96 per hour, and annualized earnings were \$33,229. The median wage of apprentices is high, but there is considerable variation in wages (Figure 10). Limiting our analysis to just those apprentices who completed their program, the outcomes are even better. These results highlight the importance of completing an Apprenticeship program.

⁴⁰In the survey, apprentices were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

⁴¹All wages and earnings are stated in 2005 Q1 dollars.

FIGURE 10 Distribution of Hourly Wages of Apprentices in the Third Quarter After Leaving Program

Quartile	Hourly Wage
Highest	Above \$30.15
Third	\$21.96–\$30.15
Second	\$13.53–\$21.96
Lowest	Below \$13.53

FIGURE 9 Employment and Earnings of Apprentices in the Third Quarter After Leaving Program

	1995-96		1997-98		1999-2000		2001-2002		2003-2004	
	All		All	Completers	All	Completers	All	Completers	All	Completers
Percentage self-reporting employment during third quarter after leaving program	93		93	na	92	na	87	na	87	na
Percentage with employment reported by employers to ESD during the third quarter after leaving program	68		64	75	75	93	73	86	73	87
Median quarterly hours worked, of those working	455		456	480	460	489	442	464	451	472
Percentage employed full-time (averaging 30 or more hours/week) of those working	63		58	66	65	82	60	68	61	69
Median annualized earnings of those working	\$31,964		\$30,300	\$47,268	\$34,819	\$54,343	\$32,663	\$47,671	\$33,229	\$52,377
Size of household in which median earnings would support at poverty level	7.9		7.4	12.6	8.7	14.7	8.1	12.7	8.3	14.1
Size of household in which median earnings would support at twice poverty level	3.0		2.7	5.3	3.4	6.4	3.1	5.4	3.2	6.1
Median hourly wage of those working	\$20.38		\$18.76	\$27.03	\$20.66	\$29.30	\$21.77	\$29.16	\$21.96	\$29.65
Percentage self-reporting receipt of medical benefits from employer	81		83	na	89	na	87	na	83	na
Percentage self-reporting receipt of pension benefits from employer	72		78	na	81	na	80	na	82	na

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

During the third quarter after leaving their programs, the majority of apprentices were employed in construction industries (Figure 11). Many apprentices, however, took jobs in manufacturing, services, retail trade, and public administration. Most of the apprentices employed in manufacturing, retail trade, and service industries left their programs without completing training.

FIGURE 11 Industry of Employment of Apprentices in the Third Quarter After Leaving Program: 2003-2004

Industry Group	Employment
Natural Resources and Mining	0.9%
Construction	53.5%
Construction of Buildings	7.6%
Heavy and Civil Engineering Construction	5.3%
Foundation, Structure, and Building	
Exterior Contractors	8.0%
Building Equipment Contractors	22.8%
Building Finishing Contractors	8.2%
All Other Specialty Contractors	1.7%
Manufacturing	7.9%
Wholesale Trade	2.7%
Retail Trade	4.3%
Transportation, Warehousing, and Utilities	2.8%
Information	0.2%
Financial Activities	1.2%
Services	22.5%
Professional, Scientific, and Technical	1.4%
Administrative and Support, and Waste	
Management and Remediation	5.6%
Education	7.3%
Health Care	1.6%
Social Assistance	1.0%
Arts, Entertainment, and Recreation	1.1%
Accommodation and Food	2.9%
All Other Services	1.6%
Public Administration	3.9%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Employment and earnings outcomes varied by gender and race and ethnicity.⁴² Women were as likely as men to be employed in the third quarter after leaving their Apprenticeship program, but less likely to be employed full time (47 percent versus 64 percent). Of those employed, women had median hourly wages that were 60 percent of males and median annualized earnings that were 56 percent of males.

Within the construction industries, however, male and female apprentices earned relatively the same wage (females' median wage was 92 percent of males). It appears that an important factor contributing to the gender gap in earnings is the concentration of women in Apprenticeship programs that provide training outside the construction; precision, production, craft; and machinist trades. Among those leaving during 2003-2004, 49 percent of women (and virtually no men) left Apprenticeship programs in early childhood education and teaching/library assistantship (Figure 12). Wages in these fields are considerably lower than in the construction; precision, production, craft; and machinist trades.

⁴²Apprenticeship administrative records do not include information on disability status.

FIGURE 12 Distribution of Apprentices by Trade Group and Gender

Trade Group	Males	Females
Construction Trades	74%	31%
Precision, Production, Crafts	9%	2%
Machinist	7%	1%
Transportation Operators	3%	5%
Industrial Technology	2%	1%
Early Childhood Education	0%	9%
Teaching/Library Assistant	0%	40%
Other	6%	11%
TOTAL	100%	100%

African American, Native American, and Hispanic apprentices were less likely than whites to be employed in the third quarter after leaving their programs. African Americans were also less likely to be employed full time. For those employed, the median wage for African American apprentices was only 71 percent of whites; the median wage for Asians/Pacific Islanders was 87 percent of whites; and the median wage for Hispanics was 94 percent of whites.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left workforce development programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wage, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in an Apprenticeship program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state’s employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and longer-term impacts for individuals who exited in fiscal year 2001-2002.

Apprenticeship programs have very large, positive impacts on employment, wages, hours worked, and earning. Training substantially increases the lifetime earnings of apprentices.

Figure 13 shows the short-term net impacts of Apprenticeship training. During the third quarter after the 2003-2004 apprentices left their program, training is associated with an increase of 7.4 percentage points in employment as reported to ESD. The impact on wage rates is \$7.26⁴³ per hour, and the impact on hours worked per quarter is 33.5 hours. There is a very large impact on mean quarterly earnings—\$3,001. Training is associated with modest declines in the percentages receiving food stamps and medical benefits. There is a higher percentage receiving UI benefits. To a large extent, this impact on receipt of UI benefits is a function of the seasonality of the construction industry in which many of the apprentices are employed.

⁴³All dollar amounts are in 2005 Q1 dollars.

FIGURE 13 Short-Term Net Impact Results for Apprentices Who Left the Program During PY 2003-2004

	All Apprentices	Apprenticeship Completers
Employment: percentage		
in reported employment	7.4	18.8
Mean Hourly Wage	\$7.26	\$14.29
Mean Hours Worked		
Per Quarter	33.5	61.8
Mean Quarterly Earnings	\$3,001	\$5,990
TANF: percentage		
receiving aid	-0.4*	-0.8
Food Stamps: percentage		
receiving	-3.5	-6.5
Medical Benefits: percentage		
receiving	-3.8	-5.3
UI Benefits: percentage		
receiving	11.3	25.5

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.
* Not statistically significant at the 0.05 level.

The longer-term net impacts of training are observed 9 to 12 quarters after apprentices left training in the 2001-2002 program year (Figure 14). In the longer-term, there also are positive impacts of training on employment, hourly wage, hours worked, and earnings. Training is associated with declines in the percentages receiving Temporary Assistance to Needy Families (TANF), food stamps, and medical benefits and an increase in the percentage receiving UI benefits.

The data allowed for separate analysis of both individuals who completed their Apprenticeship program and those who left before completing. The short-term and longer-term net impacts are substantially greater for completers, indicating the value of completing an Apprenticeship program.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.⁴⁴ Program

costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by apprentices. Benefits and costs are calculated for both the observed period of time and are based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for apprentices leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each apprentice in training, the public (taxpayer) cost is \$2,546 over the length of their enrollment, and the participant cost is \$652 in tuition (Figure 15). By definition, apprentices work during their program participation and their net earnings during training was about \$24,000 higher than those who were not in training. During the course of working life to age 65, the average apprentice will gain about \$229,800 in net earnings (net impact earnings plus earnings

⁴⁴Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

FIGURE 14 Longer-Term Net Impact Results for Apprentices Who Left the Program During PY 2001-2002

	All Apprentices	Apprenticeship Completers
Employment: percentage in reported employment	6.8	16.1
Mean Hourly Wage	\$5.58	\$11.64
Mean Hours Worked Per Quarter	20.3	59.5
Mean Quarterly Earnings	\$2,281	\$4,965
TANF: percentage receiving aid	-0.5	-1.3
Food Stamps: percentage receiving	-2.2	-5.3
Medical Benefits: percentage receiving	-1.4	-3.7
UI: percentage receiving	14.1	28.6

Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.

FIGURE 15 Benefits and Costs of Apprenticeship Training

	First 2.5 Years After Program Participant	Public	Forecast to Age 65 Participant	Public
Benefits				
Earnings	\$27,883		\$205,825	
Employee Benefits	\$5,577		\$41,166	
Taxes	-\$7,249	\$7,249	-\$53,515	\$53,515
Transfers*	\$984	-\$984	\$4,052	-\$4,052
Costs				
Foregone Earnings**	\$23,997		\$23,997	
Program Costs***	-\$652	-\$2546	-\$652	-\$2546
TOTAL	\$50,540	\$3,719	\$220,874	\$46,916

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

* Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

**Instead of foregone earnings, apprentices had positive net earnings while participating.

*** Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.

while in Apprenticeship training) and \$41,200 in employee benefits.⁴⁵ These are net gains compared to the earnings of similar individuals who did not participate in a program included in this study.

From the time of leaving training to age 65, the public is expected to gain over \$53,500 per apprentice in additional social security, Medicare, and federal income and state sales taxes. This is far greater than the total forecasted increase in social welfare costs (due to increased receipt of UI benefits) and the direct cost of training per apprentice of about \$6,600.

Projected participant benefits to age 65 far outweigh public investment in Apprenticeship training by a ratio of 106 to 1, or \$270,336 to \$2,546.⁴⁶

Areas for Improvement

The results for Apprenticeship training are quite positive. Median earnings and wages were relatively high, most participants were very satisfied with their training, most were employed, and almost all believed their training was related to their employment.

There are, however, areas for improvement. The typical age at which apprentices enter their programs remains quite high. Clearly greater efforts

are needed in recruiting women into Apprenticeship programs. Only 15 percent of participants ending an Apprenticeship programs in 2003-2004 were women. Female apprentices typically earned less than men. An important factor contributing to the overall gender gap in earnings is the heavy concentration of women in Apprenticeship programs that provide training in relatively low-paying trades.

Apprenticeship should also continue to address relatively high dropout rates. The longer-term earnings impacts of training are substantially greater for completers. Particular attention still needs to be paid to the higher dropout rates among minority participants, especially among African Americans, Native Americans, and Hispanics.

⁴⁵This employee benefits amount does not account for the employee benefits associated with the earnings during participation. If the same benefit percentage (20 percent) were applied to such earnings, the gain in employee benefits in the longer term would be about \$46,000.

⁴⁶This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and public (taxpayers).

COMMUNITY AND TECHNICAL COLLEGES WORKER RETRAINING

The Community and Technical Colleges (CTC) Worker Retraining program provides dislocated workers and the long-term unemployed with access to job retraining for a new career. Program enrollments vary from year to year in response to layoffs and, during recessions, the need increases. The industries from which students are laid off also vary over time.

About 5 percent of Worker Retraining students receive their training at private career schools. This evaluation, however, is limited to training at community and technical colleges. The colleges provide training in occupational skills, related or supplemental instruction for apprentices, and basic skills and literacy. Students qualifying may receive financial assistance to help with their tuition.

Information was obtained on 9,311 Worker Retraining students who completed or otherwise left a community or technical college program during the 2003-2004 school year. The median length of enrollment for these students was 15 months.

This study includes information from students' college enrollment records; Employment Security Department (ESD) wage files from Washington, Idaho, and Oregon; and federal employment records. In addition, 140 students completed a telephone survey, providing additional data on employment and their satisfaction with the training.

Participant Characteristics

The racial and ethnic composition of Worker Retraining students roughly reflects of the general population (Figure 1).⁴⁷ The students do, however, include a slightly higher proportion of people of color (26 percent); African Americans are especially well represented as compared to their share of the state

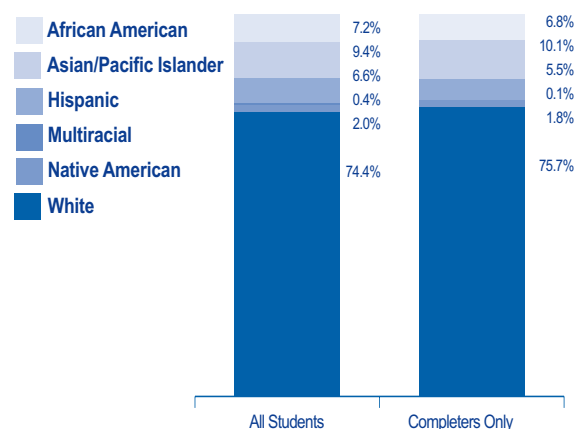
population. With the exception of Hispanics, the racial and ethnic distribution among completers reflects of all Worker Retraining students. The percentage of Hispanics among completers is lower than among all Worker Retraining students.

Forty-eight percent of the 2003-2004 Worker Retraining students were women; this is the same percentage of the 2001-2002 students. Of the 2003-2004 completers, a similar 47 percent were women.

When they enrolled in the program, 44 percent had not previously attended college, 27 percent had attended college without receiving a credential, 18 percent had received a certificate or associate degree, and 11 percent had received a baccalaureate or higher degree. The median age upon leaving the program was 42 years; one quarter was over age 49.

⁴⁷In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 CTC Worker Retraining Students and Completers by Race and Ethnicity



Competency Gains

Of the Worker Retraining students, 64 percent were program completers—25 percent received an associate degree, 18 percent a certificate, and 21 percent were defined as completers because they completed 45 or more credits or a unique (nondegree) program. This completion rate is higher than the 51 percent for those who left Worker Retraining programs in 2001-2002 when 17 percent received an associate degree, 13 percent received a certificate, and 21 percent were defined as completers because they completed 45 or more credits or a unique (nondegree) program.

The primary goal of Worker Retraining is to prepare dislocated workers for new jobs. Worker Retraining students agree: 91 percent indicated one of the main reasons they enrolled was to learn skills for a new job, and 81 percent indicated they enrolled to get or finish a degree or certificate. In addition to learning job-specific skills, many students also received other types of training (Figure 2).

Compared to the 2001-2002 Worker Retraining students, these participants appear to have received a wider variety of skills training. Much higher percentages received training in all areas, with the exception of computer skills, which was already high, and reading, which remains the lowest.

As in the previous study, most students reported their skills improved as a result of training (Figure 3). Higher percentages tended to report their technical and math skills improved “a lot” compared to general workplace and other basic skills. Compared to two years ago, a substantially higher percentage reported “a lot” of improvement in math skills and substantially lower percentages reported “a lot” of improvement in work habits and English-speaking skills.

Among students employed seven to nine months after leaving the program, 70 percent reported their education and training was related to their job, up from the 63 percent that so reported two years ago.

FIGURE 2 CTC Worker Retraining Students Receiving Various Skills Training (percentages)

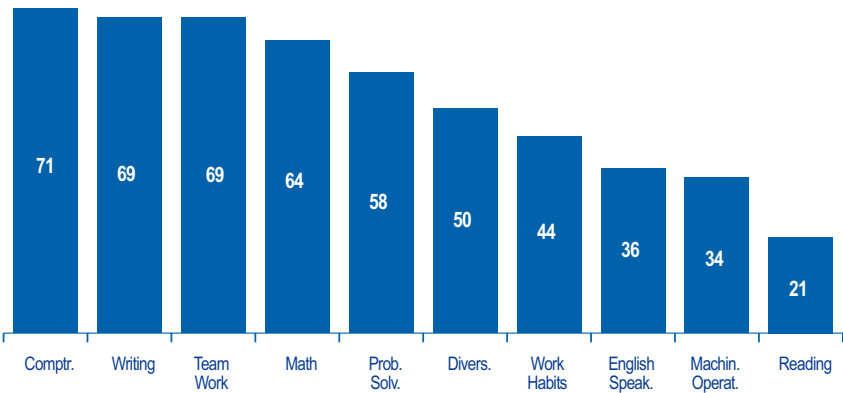
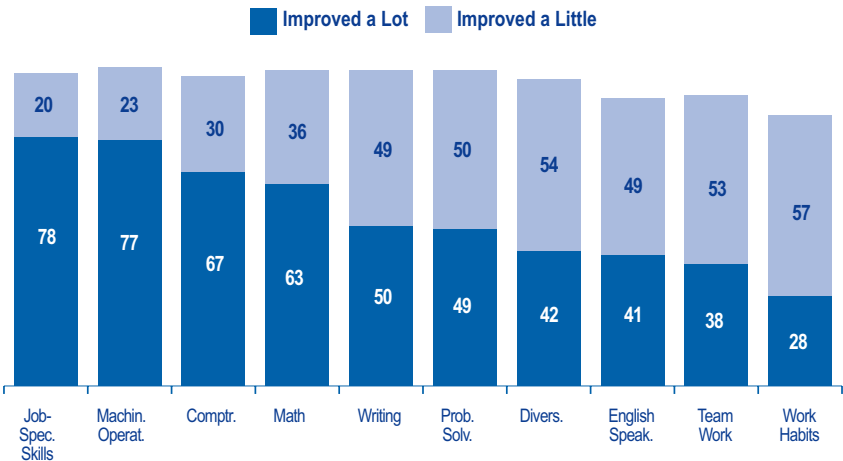


FIGURE 3 CTC Worker Retraining Students Receiving Various Skills Training Who Reported Their Skills Improved a Little or a Lot (percentages)



Participant Satisfaction

Similar to the previous study, 2003-2004 worker retraining students express very high levels of satisfaction with their program. Ninety percent reported they had met their educational objectives. Ninety-three percent of students reported they were “very satisfied” or “somewhat satisfied” with the program as a whole, up from eighty-six percent two years ago. Students tended to “very satisfied” with nearly every aspect of the program, particularly

program cost, location, times and quality of teaching (Figure 4). Less than half, however, reported being “very satisfied” with advice on selecting a program; the same percentage that so reported two years ago.

As in the past, the two most frequently needed support services while enrolled were financial assistance and information about job openings (Figure 5). While most students received the support services needed, a relatively high percentage continues to leave with an unmet need⁴⁸ for job opening information.

Employment and Earnings

According to the survey responses, 85 percent of students were employed during the period seven to nine months after leaving their program (Figure 6).⁴⁹ This is substantially higher than those reporting employment two years ago. Some of this may be due to our economic recovery over the past few years. To find out more about the students’

⁴⁸Unmet need refers to cases where the student reports that either they did not receive the required service or what was provided did not meet their needs.

⁴⁹In the survey, students were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

FIGURE 4

CTC Worker Retraining Students Very or Somewhat Satisfied With Program Features (percentages)

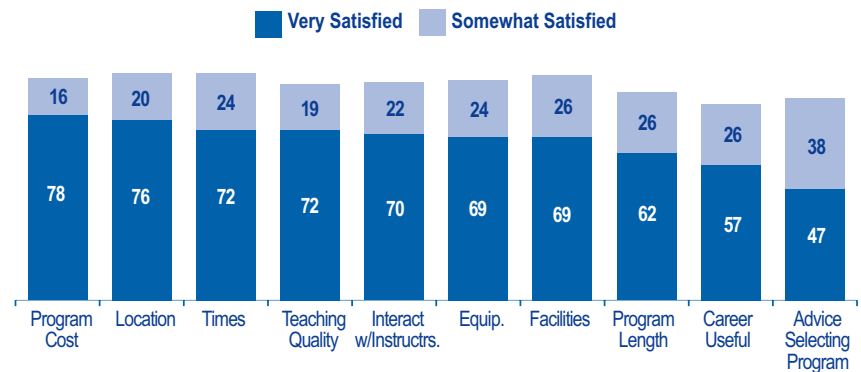


FIGURE 5

CTC Worker Retraining Students Needing a Service and Leaving With Need Unmet (percentages)

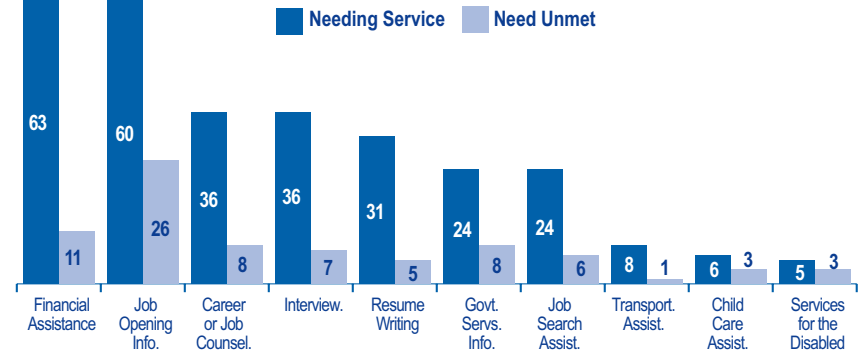


FIGURE 6

Employment and Earnings of CTC Worker Retraining Students in the Third Quarter After Leaving Program

	1997-98 All	1999-2000 All	1999-2000 Completers	2001-2002 All	2001-2002 Completers	2003-2004 All	2003-2004 Completers
Percentage self-reporting employment during third quarter after leaving program	na	na	na	71	na	85	na
Percentage with employment reported by employers to ESD during the third quarter after leaving program	73	75	77	67	70	71	73
Median quarterly hours worked, of those working	470	480	482	455	455	467	473
Percentage employed full-time (averaging 30 or more hours/week) of those working	69	69	72	61	63	65	68
Median annualized earnings of those working	\$23,355	\$25,816	\$27,352	\$22,533	\$24,008	\$23,450	\$24,545
Size of household in which median earnings would support at poverty level	5.2	6.0	6.5	5.0	5.4	5.3	5.6
Size of household in which median earnings would support at twice poverty level	1.7	2.1	2.4	1.6	1.8	1.7	1.9
Median hourly wage of those working	\$12.60	\$14.01	\$14.44	\$13.27	\$13.69	\$13.62	\$13.89
Percentage self-reporting receipt of medical benefits from employer	na	na	na	67	na	72	na
Percentage self-reporting receipt of pension benefits from employer	na	na	na	42	na	48	na

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

postprogram employment and earnings, we matched student records with ESD wage files from Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found that 71 percent of the 2003-2004 students had reported employment during the third quarter after they left their program, slightly higher than that reported two years ago. Their median hourly wage⁵⁰ was \$13.62, and they had median annualized earnings of \$23,450. Program completers were more likely to be working full time and had higher earnings and hourly wage rates than those who did not complete their training programs.

There continues to be considerable variation in wages across Worker Retraining students. While one quarter earned more than \$18 an hour, another quarter had jobs that paid less than \$11 an hour. This wide distribution of wages is reflected in the dispersion of employment across higher and lower-wage industries (Figure 7). While nearly half of those employed were in service industries, considerable percentages were in manufacturing, retail trade, construction, and public administration.

⁵⁰All wages and earnings are stated in 2005 Q1 dollars.

Employment and earnings varied by gender, race and ethnicity, and disability status. Females were as likely as men to be employed in the third quarter after leaving the program. They were, however, less likely to be working full time (60 percent versus 70 percent) and had an hourly wage that was 84 percent of males (\$12.42 versus \$14.76).

FIGURE 7 Industry of Employment of CTC Worker Retraining Students in the Third Quarter After Leaving Program: 2003-2004

Industry Group	Employment
Natural Resources and Mining	1.1%
Construction	5.4%
Manufacturing	16.7%
Food and Beverage	1.2%
Wood and Paper Products	1.4%
Aerospace	6.7%
All Other Manufacturing	7.4%
Wholesale Trade	3.9%
Retail Trade	10.7%
Transportation, Warehousing, and Utilities	4.3%
Information	2.3%
Financial Activities	4.1%
Services	46.5%
Professional, Scientific, and Technical	5.3%
Administrative and Support, and Waste Management and Remediation	12.4%
Education	5.1%
Health Care	11.7%
Social Assistance	2.8%
Arts, Entertainment, and Recreation	1.5%
Accommodation and Food	4.0%
All Other	3.7%
Public Administration	5.0%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Asians/Pacific Islanders and Hispanics were more likely to be employed than whites during the third quarter after leaving training. While Asians/Pacific Islanders were more likely to be working full time than whites (72 percent versus 65 percent), African Americans were less likely (55 percent). The median hourly wage for Hispanics was 90 percent of whites; for African Americans 91 percent of whites; for Native Americans 93 percent of whites; and for Asians/Pacific Islanders 96 percent of whites.

Earnings and employment outcomes also varied by disability status. College records suggest 8 percent of the Worker Retraining students included in this study had a disability. These students were less likely to have employment reported to ESD during the third quarter after exit (53 percent versus 72 percent) and were less likely to be employed full time (55 percent versus 66 percent). Among those working, the median hourly wage rate of those with a disability was 90 percent of those without a disability.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wage, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in a CTC Worker Retraining program were compared to individuals who had similar characteristics, but who did not participate in one of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and longer-term impacts for individuals who exited in fiscal year 2001-2002.

Worker retraining has positive net impacts on employment, hourly wage, hours worked, and earnings. Worker retraining increases lifetime earnings of participants.

FIGURE 8 Short-Term Net Impact Results for CTC Worker Retraining Students Who Left the Program During PY 2003-2004

	All Students	Program Completers
Employment: percentage in reported employment	7.8	10.8
Mean Hourly Wage	\$0.77	\$0.91
Mean Hours Worked Per Quarter	39.5	57.8
Mean Quarterly Earnings	\$376	\$572
TANF: percentage receiving	-0.2*	-0.5
Food Stamps: percentage receiving	-0.8	-1.7
Medical Benefits: percentage receiving	0.0*	-0.9*
UI Benefits: percentage receiving	-1.0	-1.7

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

Figure 8 shows the program’s short-term net impacts. During the third quarter after 2003-2004 students left the program, training is associated with an increase of 7.8 percentage points in employment as reported to ESD. The impact on hourly wage is \$0.77⁵¹ per hour, on hours worked per quarter —39.5 hours, and on mean quarterly earnings—\$376. Training is associated with minor decreases in percentages receiving food stamps, UI benefits, medical, and Temporary Assistance for Needy Families (TANF).

The longer-term net impacts of training are observed 9 to 12 quarters after students left the program during the 2001-2002 program year (Figure 9). In the longer-term, there are positive net impacts of training on employment, hours worked, and earnings. Additionally, there are minor, but significant, increases in the percentages receiving social welfare benefits.

The data allowed for separate analysis of both students who completed their training and those who left before completing. The short-term and longer-term net impacts are better for program completers than noncompleters, indicating the value of students completing their programs.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.⁵² Program costs include both direct program costs and support payments borne by the state and the tuition and foregone earnings borne by students. Benefits and costs are calculated for both the observed period of time and are based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for students leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

FIGURE 9 Longer-Term Net Impact Results for CTC Worker Retraining Students Who Left the Program During PY 2001-2002

	All Students	Program Completers
Employment: percentage in reported employment	4.6	8.2
Mean Hourly Wage	\$0.18*	\$1.09
Mean Hours Worked Per Quarter	29.8	53.7
Mean Quarterly Earnings	\$298	\$783
TANF: percentage receiving	0.4	0.0*
Food Stamps: percentage receiving	1.7	-0.6*
Medical Benefits: percentage receiving	1.2	-1.3
UI: percentage receiving	1.5	2.3

Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

⁵¹All other dollar amounts are expressed in 2005 Q1 dollars.

⁵²Upjohn estimated the impact of the net change in earnings on social security, Medicare and federal income and state sales taxes.

For each student in the CTC Worker Retraining program, the public (taxpayer) cost is about \$5,200 over the length of their enrollment, and the student costs are about \$2,600 in tuition and \$5,900 in foregone earnings while training (Figure 10). During the course of working life to age 65, the average trainee will gain about \$15,200 in net earnings (earnings minus foregone earnings) and over \$4,200 in employee benefits.⁵³ These are net gains compared to the earnings of similar individuals who did not receive training.

Projected participant benefits to age 65 outweigh public costs invested in CTC Worker Retraining by a ratio of 3.3 to 1, or \$16,812 to \$5,172.⁵⁴

From the time of leaving training to age 65, the public is forecasted to gain about \$5,500 in additional social security, Medicare, federal income and state sales taxes, and to save about \$320 in total UI benefits and other social welfare costs per student—resulting in a gain over the direct cost of college training.

⁵³This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$3,000.

⁵⁴This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between student and the public (taxpayers).

FIGURE 10 Benefits and Costs of CTC Worker Retraining

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$3,389		\$21,128	
Employee Benefits	\$678		\$4,226	
Taxes	-\$882	\$882	-\$5,494	\$5,494
Transfers*	-\$810	\$810	-\$319	\$319
Costs				
Foregone Earnings	-\$5,985		-\$5,895	
Program Costs**	-\$2,647	-\$5,172	-\$2,647	-\$5,172
TOTAL	-\$6,166	-\$3,481	\$10,999	\$640

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

* Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

** Participant program costs refer to tuition only; it does not include costs such as books and supplies. Public program costs do not include student financial aid programs.

Areas for Improvement

Overall satisfaction with the CTC Worker Retraining program was high among students. Satisfaction levels with the facilities, times, and location were at or above 95 percent. Moreover, over three-fourths of students reported substantial skill improvement in job-specific and machinery operation skills as a result of the training.

Most students received the support services needed. According to survey results, however, there were substantial unmet needs for information about job openings. Among the different elements of the program, satisfaction levels were relatively low with advice on selecting a program.

Wage and earnings gaps among different groups reflect those in the labor force at large.

- Females earn less than males.
- Racial and ethnic minorities earn less than whites.
- Students with disabilities earn less than those without disabilities.

WORKFORCE INVESTMENT ACT TITLE I-B DISLOCATED WORKER PROGRAM

The Workforce Investment Act (WIA) Title I-B Dislocated Worker Program provides employment and training services to meet dislocated workers' needs; establishes early intervention for workers and firms facing substantial layoffs; and fosters labor, management, and community partnerships with government to address worker dislocation. In general, dislocated workers are people who lost jobs due to plant closures, company downsizing, or some other significant change in market conditions. In most cases, it must be unlikely they will return to their occupation, and they must be eligible for (or have exhausted) unemployment compensation.

Dislocated workers are eligible for "core services" that include skill assessment, labor market information, training program consumer reports, and job search and placement assistance. Second and third tier services are available for eligible dislocated workers unable to get jobs through core services. These may include more intensive assessments, counseling, and pre-vocational and vocational training.

The Employment Security Department (ESD) administers the program at the state level. Twelve local workforce development councils, in consultation with chief local elected officials, oversee WIA activities in local areas. Services are coordinated through the state's one-stop career center system called WorkSource.

For this study, program records were obtained on 5,837 individuals who left the program during the 2003-2004 program year. Employment-related information was obtained through a match with ESD wage files from Washington, Idaho, and Oregon, and federal employment records. In addition, 1,436 participants responded to a telephone survey, providing

additional information on employment, training, and satisfaction with the program.⁵⁵ Employer satisfaction was assessed through survey responses from 165 firms that hired employees who recently completed a WIA program.⁵⁶

The typical participant was enrolled in the program for 15 months. There was, however, considerable variation in the amount of time participants spent in the program. One quarter was enrolled for less than 8 months, while another quarter was enrolled for over 23 months.

Participant Characteristics

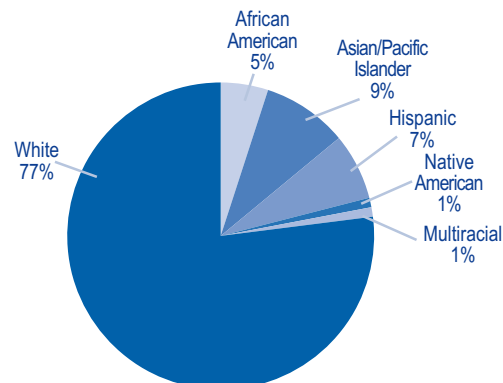
Participants roughly mirrored the state's racial-ethnic population distribution (Figure 1).⁵⁷ Twenty-three percent were people of color.

⁵⁵The responses from the participant survey were weighted to reflect the distribution of WIA dislocated workers by workforce development councils.

⁵⁶The employer survey includes employers who hired a participant who completed at least one of the three WIA Title I-B programs: adult, dislocated worker, or youth.

⁵⁷In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 WIA Dislocated Workers by Race and Ethnicity



Forty-three percent of the dislocated workers were women, up from thirty-seven percent two years ago. When they enrolled 44 percent of participants had not previously attended college, 36 percent had some college, and 19 percent had a bachelor's degree or higher. The median age at program registration was 42; one quarter was over 50 years of age and one quarter was under 34.

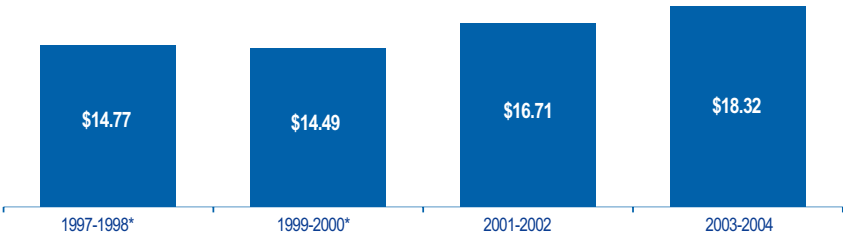
Among the 2003-2004 dislocated workers, 38 percent were employed in manufacturing prior to registration, 25 percent were working in services, and 12 percent had jobs in trade industries. Ten percent were employed in aerospace prior to registration, and three percent were employed in aerospace after the program. The preprogram wages of the 2003-2004 WIA dislocated workers were substantially higher than those of the 2001-2002 dislocated workers (Figure 2).

Competency Gains

Given the purpose of the program and the characteristics of participants, it is not surprising that 85 percent said they entered the program to acquire skills for a new job. According to the survey, 41 percent of all 2003-2004 dislocated workers received job-specific skills training (Figure 3); this is the same percentage reported by dislocated workers leaving during 2001-2002.⁵⁸ Similar to two years ago, the most common type of training was in computer skills.

With the exception of computer and job-specific skills, relatively low percentages of dislocated workers received trainings in other skill areas. Of these, large majorities indicated that their skills in the various areas improved (Figure 4) as a result of the training. Over half of those who received training in technical skills, math, and problem solving reported that their skills improved "a lot." High levels of improvement were also voiced two years ago.

FIGURE 2 Median Hourly Wages Prior to Entering the WIA/JTPA Dislocated Worker Program

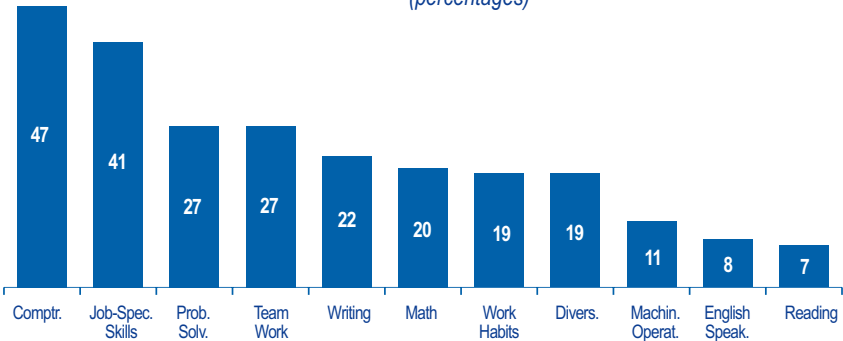


*Job Training Partnership Act (JTPA) Dislocated Worker. Wages are in 2005 Q1 dollars.

Administrative records data provide additional information on training received by WIA dislocated workers. These data suggest 64 percent of the participants leaving the program during 2003-2004 received occupational skills⁵⁹ training. In addition, 8 percent received an associate degree, another 8 percent an occupational skills license, and 36 percent an occupational skills certificate/credential.

Among those employed after the program, 64 percent said their training was related to their job, virtually the same percentage reported two years ago.

FIGURE 3 WIA Dislocated Workers Receiving Various Skills Training (percentages)



⁵⁸Among participants leaving WIA during 2003-2004, 67 percent reported that they received some form of training. Among those receiving any training, 61 percent said they received job-specific skills training (or 41 percent of all participants). Among participants leaving WIA during 2001-2002, 67 percent reported that they received some form of training. Among those receiving any training, 62 percent said they received job-specific skills training (or 41 percent of all participants).

⁵⁹Occupational skills training in the administrative records data could include the following types of services: occupational skills training; programs that combine workplace training with related instruction; training programs operated by the private sector; skill upgrading and retraining; entrepreneurial training; job readiness training; and customized training.

Participant Satisfaction

The survey results indicate participants were generally satisfied with the WIA Dislocated Worker program. Eighty percent said they met their educational objectives for enrolling in the program, and eighty-five percent reported overall satisfaction with the program; roughly the same levels of satisfaction that were reported in prior studies. Dislocated workers expressed very high levels of satisfaction with various features of the program (Figure 5). Over two-thirds were “very satisfied” with program costs, location, facilities, and times. The lowest level of reported satisfaction was for advice on selecting a program.

Similar to the last study, the support services most frequently needed by participants while enrolled in the program were information on job openings and financial assistance (Figure 6). Dislocated workers tended to receive the support services they needed. As in the past, however, a large percentage left the program with an unmet need for information on job openings.⁶⁰

Employer Satisfaction

It was not feasible to survey employers about each of the WIA programs included in the study (Adult, Dislocated Worker, and Youth) separately, because there were too few individuals coming out of each program for a sufficient percentage of employers in the state to have had experience employing recent participants. Employers were instead asked about workers who had been in WIA programs. This section presents findings on employer satisfaction with new employees who completed any type of WIA program.

Overall, the results indicate the majority of employers were satisfied with the quality and productivity of these workers (Figure 7). The percentage indicating being “very satisfied” was lower in this survey than in the previous.

FIGURE 4 WIA Dislocated Workers Receiving Various Skills Training Who Reported Their Skills Improved a Little or a Lot (percentages)

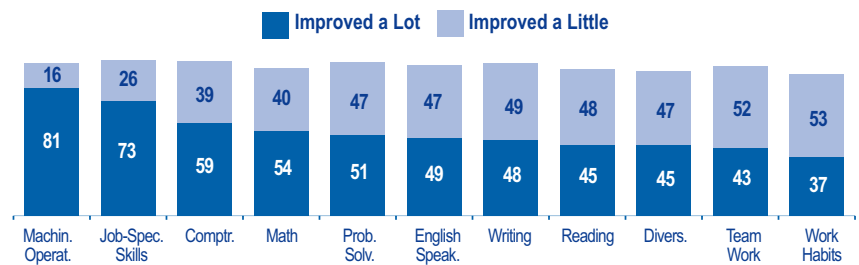


FIGURE 5 WIA Dislocated Workers Very or Somewhat Satisfied With Program Features (percentages)

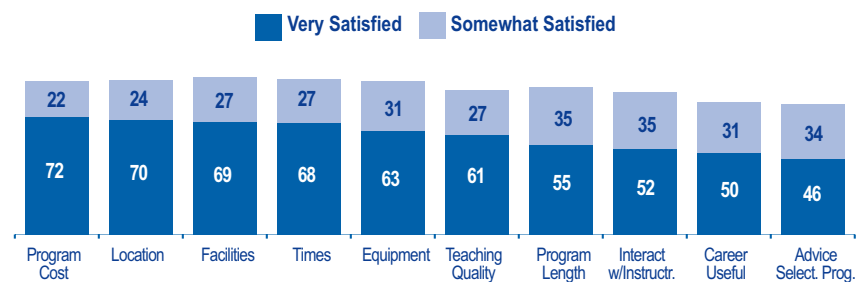


FIGURE 6 WIA Dislocated Workers Needing a Service and Leaving With Need Unmet (percentages)

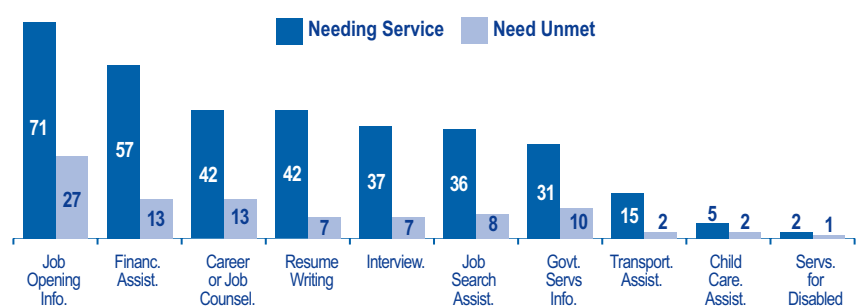
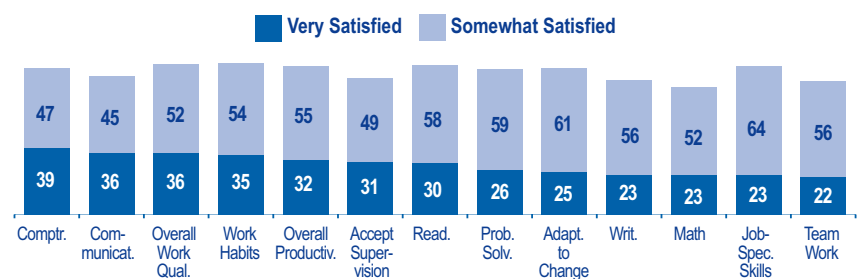


FIGURE 7 Employers Very or Somewhat Satisfied With Various Skills of New Employees Who Recently Completed a WIA Program (percentages)



⁶⁰Unmet need refers to cases where the student reports that either they did not receive the required service or what was provided did not meet their needs.

There were mixed results in terms of being “very satisfied” with general workplace skills, occupational skills, and basic skills. While relatively higher percentages of employers were “very satisfied” with computer and communication skills and work habits, low percentages were “very satisfied” with teamwork, job-specific, math, and writing skills of WIA participants

Employment and Earnings

According to survey responses, 85 percent of the 2003-2004 WIA Dislocated Worker program participants had a job seven to nine months after leaving their program (Figure 8).⁶¹ To find out more about the participants’ postprogram employment and earnings, we matched participant records with ESD wage files from Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of

in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found 76 percent had reported employment during the third quarter after they left the program. Their median hourly wage⁶² was \$14.82, and the median annualized earnings were \$27,929. The median wage of WIA dislocated workers is relatively high, but there is considerable variation in

⁶¹In the survey, participants were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

⁶²All wages and earnings are stated in 2005 Q1 dollars.

FIGURE 8 Employment and Earnings of WIA Dislocated Workers in the Third Quarter After Leaving Program

	1995-96*	1997-98*	1999-2000*	2001-2002	2003-2004
Percentage self-reporting employment during third quarter after leaving program	81	83	83	82	85
Percentage with employment reported by employers to ESD the third quarter after leaving program	74	74	75	74	76
Median quarterly hours worked, of those working	493	484	495	494	486
Percentage employed full-time (averaging 30 or more hours/week) of those working	75	67	70	74	73
Median annualized earnings of those working	\$29,083	\$25,536	\$25,857	\$27,373	\$27,929
Size of household in which median earnings would support at poverty level	7.0	5.9	6.0	6.5	6.6
Size of household in which median earnings would support at twice poverty level	2.5	2.0	2.0	2.3	2.3
Median hourly wage of those working	\$15.49	\$13.65	\$13.83	\$14.41	\$14.82
Percentage self-reporting receipt of medical benefits from employer	68	68	72	75	70
Percentage self-reporting receipt of pension benefits from employer	38	42	40	43	39

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

*Figures from 1995 through 2000 are for the Job Training Partnership Act (JTPA) III Dislocated Worker program.

wages (Figure 9). Further, the typical (median) wage replacement rate from the third quarter prior to registration compared to the third quarter postprogram was 87 percent (the mean replacement rate was 93 percent).⁶³

FIGURE 9 Distribution of Hourly Wages of WIA Dislocated Workers in the Third Quarter After Leaving Program

Quartile	Hourly Wage
Highest	Above \$20.25
Third	\$14.82 - \$20.25
Second	\$11.22 - \$14.82
Lowest	Below \$11.22

Over one-third of participants were dislocated from manufacturing jobs, including 10 percent from aerospace, 6 percent from wood and paper products, and 4 percent from alumina and aluminum products. After leaving the program, only 17 percent found jobs in the manufacturing sector—about 3 percent found employment in the aerospace industry. Compared to preprogram employment, postprogram employment was more likely to be in services and retail trade rather than manufacturing industries (Figure 10).

Employment and earnings outcomes of participants varied by gender, race and ethnicity, and disability status. During the third quarter after exit, although women and men had similar employment rates, women were less likely to be working full time (70 percent versus 76 percent). The median wage for women was 83 percent of men.

Dislocated workers from racial and ethnic minority backgrounds were as likely to be employed as whites. Hispanics, Native Americans, and African Americans were slightly less likely to be employed full time (67 percent of Hispanics and Native Americans, 68 percent of African Americans, and 74 percent of whites). The median hourly wage for Hispanics was 78 percent of whites, Native Americans 83 percent of whites, Asian/Pacific Islanders 92 percent of whites, and African Americans 95 percent of whites.

Employment and earnings also varied by disability status. Administrative records suggest 3 percent of the participants included in this study had a disability. Dislocated workers with disabilities were less likely to be employed (62 percent versus 76 percent) and working full time (64 percent versus 74 percent). Their median earnings were 90 percent of those with no reported disability.

⁶³Wage replacement is measured here as follows. We calculate the ratio of the hourly wage during the third quarter after the program to the wage during the third quarter prior to the program for each participant who had nonzero wages in both of the periods. The reported statistics are the overall median and mean for these participants.

FIGURE 10 Industry of Employment of WIA Dislocated Workers During Third Quarter Prior to Program and Third Quarter After Program: 2003-2004

Industry Group	Prior Employment	Postprogram Employment
Natural Resources and Mining	2.9%	2.2%
Construction	3.4%	5.2%
Manufacturing	38.4%	16.5%
Food and Beverage Products	2.4%	1.5%
Wood and Paper Products	5.7%	3.1%
Alumina and Aluminum Products	3.7%	0.2%
Fabricated Metal Products	1.4%	1.2%
Computer and Electronic Products	5.8%	1.7%
Aerospace	10.0%	2.7%
All Other Manufacturing	9.4%	6.2%
Transportation, Warehousing, and Utilities	5.6%	6.4%
Wholesale Trade	5.3%	5.2%
Retail Trade	6.7%	8.9%
Information	6.5%	3.5%
Financial Activities	3.9%	5.6%
Services	25.2%	42.9%
Professional, Scientific, and Technical	6.6%	7.1%
Administrative and Support, and Waste Management and Remediation	8.7%	11.8%
Education	1.4%	4.8%
Health Care	2.1%	9.9%
Social Assistance	1.5%	2.2%
Leisure and Hospitality	2.7%	3.2%
All Other Services	2.2%	3.9%
Public Administration	2.1%	3.6%
TOTAL	100%	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

The WIA Dislocated Worker program has strong, positive net impacts on employment, hourly wage, hours worked, and earnings. Participation increases lifetime earnings of dislocated workers.

In order to estimate these impacts, individuals who participated in a WIA Dislocated Worker program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state’s employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and longer-term impacts for individuals who exited in fiscal year 2001-2002.

Figure 11 shows the short-term net impacts of the WIA Dislocated Worker program. During the third quarter after the 2003-2004 participants left their programs, training is associated with an increase of 11.6 percentage points in employment as reported to

ESD. The impact on wage rates is \$1.92⁶⁴ per hour, and the impact on hours worked per quarter is 70.1 hours. There is a large impact on mean quarter earnings—\$1,088. Participation is associated with minor declines in the percentages receiving Temporary Assistance to Needy Families (TANF) and food stamps, but an increase in the percentage receiving UI benefits.

The WIA Dislocated Worker program offered participants a variety of services, and not all participants received training.⁶⁵ In the short-term, the net impacts of training are similar to that of all services. In the longer-term, the net impacts of training are smaller than for all services; this seems counter-intuitive. For dislocated workers, however, the need for training may be an indicator that the skills and knowledge they have are not as transferable as the skills and knowledge of those who did not receive training.

⁶⁴All dollar amounts are expressed in 2005 Q1 dollars.
⁶⁵Training includes job preparatory training, worker retraining, and work-related basic skills training.

FIGURE 11 Short-Term Net Impact Results for WIA Dislocated Workers Who Left the Program During PY 2003-2004

	All Participants	Participants Who Received Training
Employment: percentage		
in reported employment	11.6	11.6
Mean Hourly Wage	\$1.92	\$1.89
Mean Hours Worked		
Per Quarter	70.1	69.3
Mean Quarterly Earnings	\$1,088	\$1,053
TANF: percentage		
receiving aid	-0.2	-0.1*
Food Stamps: percentage		
receiving	-1.2	-1.4
Medical Benefits: percentage		
receiving	-0.3*	-0.6*
UI: percentage receiving	2.1	1.0*

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.
* Not statistically significant at the 0.05 level.

The longer-term net impacts of participation are observed 9 to 12 quarters after participants left the program during 2001-2002 (Figure 12). There are positive net impacts on employment, hourly wage, hours worked, and earnings.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.⁶⁶ Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each participant in the program, the public (taxpayer) program cost is almost \$6,800 over the length of their enrollment, and the participant cost is about \$10,300 in foregone earnings (Figure 13 shown on following page). During the course of working life to age 65, the average participant will gain about \$35,300 in net earnings (earnings minus foregone earnings) and over \$9,100 in employee benefits.⁶⁷ These are net gains compared to the earnings of similar individuals who did not receive services or training.

Projected participant benefits to age 65 outweigh public costs invested in the WIA Dislocated Worker program by a ratio of about 6.6 to 1, or \$44,399 to \$6,757.⁶⁸

The total public (taxpayer) costs are less than the program costs because participation is associated with increased tax revenues and decreased state welfare expenditures. From the time of leaving the program to age 65, the public is forecasted to gain almost \$12,000 per participant in additional social security, Medicare, and federal income and state sales taxes, and to save about \$3,600 in total UI benefits and other social welfare costs-greater than the direct cost of program services.

⁶⁶Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

⁶⁷This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$7,100.

⁶⁸This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

FIGURE 12 Longer-Term Net Impact Results for WIA Dislocated Workers Who Left the Program During PY 2001-2002

	All Participants	Participants Who Received Training
Employment: percentage		
in reported employment	6.4	4.2
Mean Hourly Wage	\$0.95	\$0.40*
Mean Hours Worked		
Per Quarter	48.8	33.2
Mean Quarterly Earnings	\$752	\$344
TANF: percentage		
receiving aid	-0.1*	-0.0*
Food Stamps: percentage		
receiving	-0.6*	-0.2*
Medical Benefits: percentage		
receiving	-0.8*	-0.2*
UI: percentage receiving	1.3*	0.8*

Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

Areas for Improvement

WIA dislocated workers were generally satisfied with the program and most said their educational objectives for enrolling in the program had been met. The labor market outcomes for participants leaving the WIA Dislocated Worker program during 2003-2004 were slightly better than of those who left during 2001-2002. Among those receiving job-specific training, 73 percent said their skills improved “a lot”; virtually the same percentage as reported two years ago.

There are, however, areas for improvement. Participant satisfaction with advice on program selection is relatively low, and substantial numbers

report an unmet need for information about job openings. This has been a persistent issue in our evaluations.

The wages of participants differ by gender and race and ethnicity. Women earn less than men, and Hispanics and Native Americans earn less than whites. The program might do more to eliminate gender and racial and ethnic differences in the labor market outcomes.

FIGURE 13 Benefits and Costs of WIA Dislocated Worker Program

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$7,974		\$45,544	
Employee Benefits	\$1,595		\$9,109	
Taxes	-\$2,073	\$2,073	-\$11,841	\$11,841
Transfers*	-\$3,432	\$3,432	-\$3,593	\$3,593
Costs				
Foregone Earnings	-\$10,254		-\$10,254	
Program Costs	\$0	-\$6,757	\$0	-\$6,757
TOTAL	-\$6,190	-\$1,251	\$28,966	\$8,677

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

*Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

ADULT BASIC SKILLS EDUCATION/ENGLISH AS A SECOND LANGUAGE

Adult Basic Skills Education/English as a Second Language (ABE/ESL) is provided by community and technical colleges and, to a lesser extent, community-based organizations. Among the ABE/ESL students included in this report, 92 percent received their training at community and technical colleges and 8 percent received training at community-based organizations. This report is limited to adults who identified employment-related reasons for enrolling in basic skills courses and who proceeded to take only basic skills courses.⁶⁹ These students are 78 percent of all the ABE/ESL students. Those who took basic skills courses for nonemployment-related reasons are not included.

ABE/ESL includes courses in four categories.

1. ABE provides remediation in reading, writing, and mathematics for adults whose skills are at, or below, the eighth grade level.
2. ESL provides non-transfer level instruction at competency levels ranging from beginning to advanced.
3. GED Test Preparation provides instruction in basic academic skills beyond ABE for those students whose goal is to pass the high school equivalency examination.
4. High School Completion provides instruction in high school courses for adults who want to earn an adult high school diploma.

For this study, student records were obtained for 10,953 adults who left an ABE/ESL program during the 2003-2004 school year. The study also includes information from Employment Security Department

(ESD) wage files from Washington, Idaho, and Oregon, and federal employment records. In addition, 293 students completed a telephone survey, providing additional data on employment and their satisfaction with the training. Survey responses from 282 firms that hired new employees who recently received ABE/ESL instruction provide information on employer satisfaction with the skills of these individuals.

Participant Characteristics

ABE/ESL serves the most racially and ethnically diverse group of students of any of the workforce development programs included in this report. Students who were people of color were 63 percent, up slightly from the 59 percent in 2001-2002 (Figure 1).⁷⁰ The percentage of participants who are people of color is much higher than in the state population ages 16-74 (63 percent versus 20 percent).

⁶⁹Individuals who took vocational courses in addition to basic skills are included in the chapter on CTC Job Preparatory training. This chapter does present net impact estimates for concurrent basic skills and job preparatory training.

⁷⁰In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 ABE/ESL Students by Race and Ethnicity

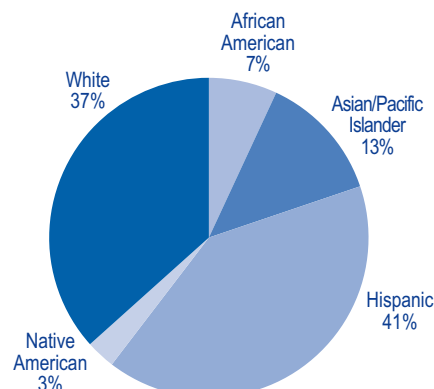


FIGURE 2 ABE/ESL Students Receiving Various Skills Training (percentages)

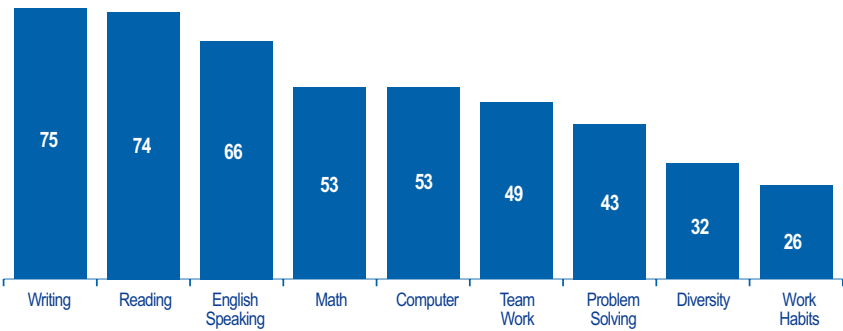


FIGURE 3 ABE/ESL Students Receiving Various Skills Training Who Reported Their Skills Improved a Little or a Lot (percentages)

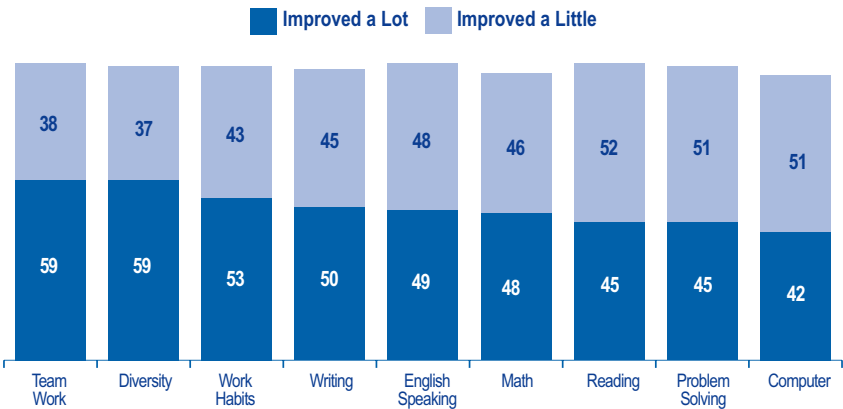
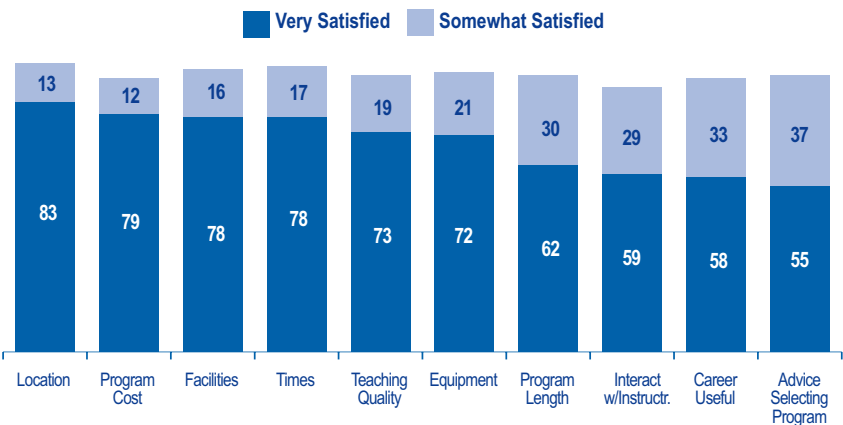


FIGURE 4 ABE/ESL Students Very or Somewhat Satisfied With Program Features (percentages)



Fifty-eight percent of students were female; virtually the same as in 2001-2002. The median age, when leaving a program, was 29 years; 25 percent were over age 38. Seventeen percent of the students reported receiving public assistance at registration.

Competency Gains

A majority of students indicated they enrolled in their program to acquire skills for a new job or for personal improvement. More specifically, most students reported seeking to improve their reading skills (74 percent), math skills (60 percent), and/or English-speaking skills (74 percent); 53 percent said that one of their reasons for enrolling was to get a GED. The majority of students reported receiving instructions in these areas (Figure 2). Students received training in other areas as well.

As in the previous study, most students reported their skills in these areas improved as a result of the training (Figure 3). Lower percentages, however, reported a lot of improvement in English-speaking, reading, and problem solving compared to the prior study. Students tended to report higher levels of improvement with workplace skills than with basic or computer skills.

Participant Satisfaction

In general, students were satisfied with the training they received. Ninety-four percent of students reported being satisfied with their basic skills instruction overall, up slightly from the previous ninety-one percent. Unfortunately, the decline in the percentage who stated that they had met their educational objectives continued: 74 percent in 2003-2004, 80 percent in 2001-2002, and 87 percent in 1999-98. Large majorities of students indicated being satisfied with different aspects of their programs (Figure 4). Over three-fourths indicated being “very satisfied” with facilities, times offered, location, and program cost.⁷¹

⁷¹ABE/ESL courses were offered free of tuition until the 2004-2005 school year, when the Legislature imposed a nominal \$25 a course tuition fee.

Similar to the previous survey, students reported information on job openings and resume writing as the support services most needed while enrolled (Figure 5). Students were more likely than not to receive the services they needed. Relatively high percentages said they left the program with their need for job opening information and counseling and guidance unmet.⁷² The percentage with unmet need for job opening information in 2003-2004, however, is much lower than was two years ago (17 percent versus 28 percent).

Employer Satisfaction

The employer satisfaction survey, which was administered during 2005, asked firms to evaluate new employees who had recently completed an ABE/ESL program. Ninety-one percent of employers stated they were at least somewhat satisfied with the overall work quality of these new employees—twenty-eight percent, however, said they were “very satisfied” (Figure 6). Employers’ levels of satisfaction with various skills of new employees differed somewhat from of the previous survey. Much lower percentages were “very satisfied” with teamwork, willingness to accept supervision, adaptability to change, and work habits. On the other hand, much higher percentages were “very satisfied” with computer and communication skills.

Employment and Earnings

According to the survey responses, 64 percent of the 2003-2004 ABE/ESL students were employed during the period seven to nine months after leaving their program (Figure 7 on following page). To find out more about the students’ postprogram employment and earnings, we matched student records with ESD wage files from Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment,

with self-employment, active military duty, and those working for religious nonprofit organizations being the major groups of employers not included).

According to record matches, 56 percent of ABE/ESL students had reported employment during the third quarter after they left the program, virtually the same percentage reported two years ago. Their median hourly wage⁷³ was higher than two years ago. The median postprogram earnings, however, were lower than in the previous three studies.

⁷²Unmet need refers to cases where the student reports that either they did not receive the required service or what was provided did not meet their needs.

⁷³All wages and earnings are stated in 2005 Q1 dollars.

FIGURE 5 ABE/ESL Students Needing a Service and Leaving With Need Unmet (percentages)

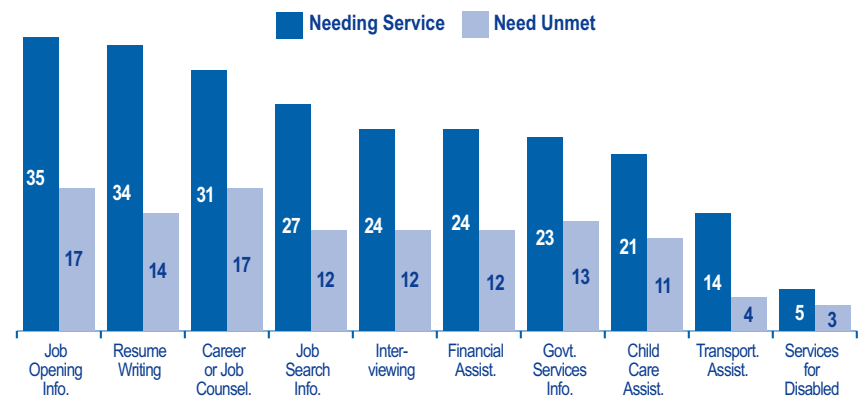


FIGURE 6 Employers Very or Somewhat Satisfied With Various Skills of New Employees Who Recently Completed an ABE/ESL Program (percentages)



FIGURE 7 Employment and Earnings of ABE/ESL Students in the Third Quarter After Leaving Program

	1995-96	1997-98	1999-2000	2001-2002	2003-2004
Percentage self-reporting employment during third quarter after leaving program	59	82	62	64	64
Percentage with employment reported by employers to ESD the third quarter after leaving program	49	62	60	55	56
Median quarterly hours worked of those working	419	452	433	419	412
Percentage employed full-time (averaging 30 or more hours/week) of those working	54	57	57	54	54
Median annualized earnings of those working	\$13,974	\$17,027	\$16,450	\$15,722	\$15,215
Size of household in which median earnings would support at poverty level	2.4	3.3	3.1	2.9	2.7
Size of household in which median earnings would support at twice poverty level	0.7	0.9	0.9	0.8	0.8
Median hourly wage of those working	\$8.69	\$9.58	\$9.93	\$9.58	\$9.66
Percentage self-reporting receipt of medical benefits from employer	52	63	45	53	44
Percentage self-reporting receipt of pension benefits from employer	37	35	29	32	23

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

FIGURE 8 Industry of Employment of ABE/ESL Students in the Third Quarter After Leaving the Program: 2003-2004

Industry Group	Employment
Natural Resources and Mining	6.0%
Construction	5.2%
Manufacturing	13.1%
Food and Beverage Products	4.1%
Wood and Paper Products	1.6%
Fabricated Metal Products	1.0%
Transportation Equipment	1.6%
All Other Manufacturing	4.9%
Transportation, Warehousing, and Utilities	2.3%
Wholesale Trade	3.0%
Retail Trade	13.5%
Information	0.7%
Financial Activities	2.9%
Services	52.3%
Professional, Scientific, and Technical	1.5%
Administration and Support, and Waste Management and Remediation	11.4%
Education	2.0%
Health Care	9.7%
Social Assistance	3.8%
Arts, Entertainment, and Recreation	2.7%
Accommodation and Food	15.6%
All Other Services	5.7%
Public Administration	1.1%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Although employment among ABE/ESL students is heavily concentrated in services, retail trade, and manufacturing industries (Figure 8), compared to 2001-2002, employment of 2003-2004 participants is much more likely to be in service industries and much less likely to be in retail trade.

Among students employed during the third quarter after exit, there is a substantial gender gap in labor market outcomes. Employment rates, hours worked, earnings, and wages are significantly lower for women (Figure 9).

FIGURE 9 Gender Differences in Labor Market Outcomes Among ABE/ESL Students in the Third Quarter After Leaving Program

	Women	Men	Ratio
Employment Reported to ESD	54%	59%	92%
Median Quarterly Hours Worked	386	455	85%
Median Annual Earnings	\$13,719	\$18,572	74%
Median Hourly Wage	\$9.13	\$10.59	86%

ABE/ESL students of color tended to have employment outcomes and earnings similar to or better than whites. Hispanics had a higher employment rate than whites (62 percent versus 54 percent). Higher percentages of Hispanics and Asians/Pacific Islanders worked full time compared to whites (62 percent, 59 percent, and 48 percent, respectively). Median wages for all minority groups were similar to whites.

According to administrative records, 1 percent of the ABE/ESL students leaving college during 2003-2004 had a disability. Students with disabilities did less well in the labor market than their fellow participants. They were less likely to have employment reported to ESD (35 percent versus 56 percent), they were less likely to work full time (36 percent versus 54 percent), and their median hourly wage was 89 percent of students without a disability.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short- and longer-term impacts of program participation on employment, hourly wage, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who received employment-related ABE/ESL education were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study.⁷⁴ Additional estimates were made for a cohort of ABE/ESL students who also participated in CTC Job Preparatory training. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and longer-term impacts for individuals who exited in fiscal year 2001-2002.

ABE/ESL instruction is associated with minimal positive short-term net impacts on hourly wage, hours worked, and quarterly earnings. While ABE/ESL education is associated with positive longer-term net impacts on employment and hours worked, net impacts on hourly wage and quarterly earnings are insignificant. ABE/ESL students who also participated in CTC Job Preparatory training have better short-term and longer-term net impacts on employment, hourly wage, hours worked, and earnings.

⁷⁴That is, individuals who enrolled in ABE/ESL programs for personal enhancement or non-employment-related purposes are not included in the ABE/ESL cohort.

FIGURE 10 Short- and Longer-Term Net Impact Results for ABE/ESL Students Who Left the Program During PY 2003-2004 and 2001-2002

	Short-Term Impacts Exiters 2003-2004	Longer-Term Impacts Exiters 2001-2002
Employment: percentage in reported employment	-1.3*	5.9
Mean Hourly Wage	\$0.62	-\$0.02*
Mean Hours Worked Per Quarter	11.8	18.5
Mean Quarterly Earnings	\$200	-\$26*
TANF:** percentage receiving aid	2.6	2.5
Food Stamps: percentage receiving	4.3	6.4
Medical Benefits: percentage receiving	5.3	6.0
UI: percentage receiving	-0.8	-1.3

Notes: Short-term refers to impacts observed in the third quarter after leaving the program during the 2003-2004 school year. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program during the 2001-2002 school year. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

** Temporary Assistance to Needy Families

Figure 10 shows the short-term impacts of the program. During the third quarter after the 2003-2004 participants left their program, ABE/ESL instruction is associated with small, but positive, net impacts on hourly wage, \$0.62⁷⁵ per hour; hours worked per quarter, 11.8 hours; and quarterly earnings, \$200. ABE/ESL instruction is associated with increases in the percentages receiving public assistance, but a minor decrease in the percentage receiving UI benefits.⁷⁶

The longer-term impacts on employment and hours worked are positive; however, the net impacts on hourly wage and earnings are insignificant (also in Figure 10). As in the short-term, longer-term ABE/ESL instruction was associated with increases in the percentages receiving public benefits and a decline in the percentage receiving UI benefits.

FIGURE 11 Short- and Longer-Term Net Impact Results for ABE/ESL Students Who Also Participated in CTC Job Preparatory Training and Left the Program During PY 2003-2004 and 2001-2002

	Short-Term Impacts Exiters 2003-2004	Longer-Term Impacts Exiters 2001-2002
Employment: percentage in reported employment	6.6	12
Mean Hourly Wage	\$1.74	\$1.87
Mean Hours Worked Per Quarter	55.2	60
Mean Quarterly Earnings	\$727	\$890
TANF:** percentage receiving aid	4.0	2.4
Food Stamps: percentage receiving	8.4	7.4
Medical Benefits: percentage receiving	14.0	9.6
UI: percentage receiving	-0.5*	-1.5*

Notes: Short-term refers to impacts observed in the third quarter after leaving the program during the 2003-2004 school year. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program during the 2001-2002 school year. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

** Temporary Assistance to Needy Families

The data permitted an examination of the outcomes for ABE/ESL students who also received CTC Job Preparatory Training.

⁷⁵All dollar amounts are expressed in 2005 Q1 dollars.

⁷⁶Given the increases in public assistance, the decrease in the percentage receiving UI benefits may be the result of not qualifying for such benefits rather than not being unemployed.

⁷⁷The study examined short-term outcomes of CTC Job Preparatory participants who exited in 2003-2004 and who had participated in ABE/ESL at a community and technical college sometime during 2000-2001 through 2003-2004 and longer-term outcomes of CTC Job Preparatory participants who exited in 2001-2002 and who had participated in ABE/ESL at a community and technical college sometime during 1998-99 through 2001-2002.

For those who had ABE/ESL education and pursued CTC Job Preparatory training, the labor market outcomes were much stronger (Figure 11). ABE/ESL with CTC Job Preparatory training was associated with a short-term increase of 6.6 percentage points in employment as reported to ESD, and a longer-term increase of 12.0 percentage points. There were substantial positive impacts on hourly wage, hours worked, and quarterly earnings.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.⁷⁸ Program costs include both direct program costs and support payments borne by the state and the foregone earnings borne by students. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for students leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis. The results are for those students who took only basic skills courses in the colleges.

For each student in ABE/ESL only, the public (taxpayer) cost is about \$2,500 over the length of their enrollment, and the student cost is \$140 in foregone earnings while in school (Figure 12). The average ABE/ESL student makes no net gains in earnings in either the first two and one-half years after leaving college or during the course of working life to age 65 compared to similar individuals who did not participate in any of the workforce development programs.

FIGURE 12 Benefits and Costs of ABE/ESL Education

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$0*		\$0*	
Employee Benefits	\$0*		\$0*	
Taxes	\$0*	\$0*	\$0*	\$0*
Transfers**	\$735	-\$735	\$5,303	-\$5,303
Costs				
Foregone Earnings	-\$140		-\$140	
Program Costs***	\$0	-\$2,453	\$0	-\$2,453
TOTAL	\$596	-\$3,188	\$5,164	-\$7,756

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

*Refers to essentially but not exactly \$0.

**Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

***In 2001-2002 ABE/ESL students in CTC programs were not required to pay tuition.

⁷⁸Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

Areas for Improvement

ABE/ESL students have to overcome substantial barriers in order to succeed in the labor market. Some lack basic skills, some lack a high school diploma, and some lack proficiency in English. The majority of these students are people of color and many are poor. These factors should be taken into account when considering the results.

Overall, the survey responses suggest most students were satisfied with the program. While most said they met their educational objectives, the percentage continued to decline over previous studies. Also, most reported that their basic skills (reading, writing, math) and English-speaking skills improved. However, only half or less reported that these skills improved “a lot.”

Student survey responses suggest a need for wider access to some support services. Many left the program with unmet needs for career or job counseling and information on job openings.

Employment rates and earnings were typically low for ABE/ESL students. In addition to having limited basic skills, many of these individuals lack job-specific skills. According to the employer survey, only 23 percent of employers were “very satisfied” with the job-specific skills of these students. Remember that most of this evaluation was restricted to only those ABE/ESL students who enrolled for a work-related reason, but who did not also participate in vocational training. Community and technical colleges’ efforts to integrate work skills training in ABE/ESL instruction should continue.

Postprogram wages and earnings were substantially lower for women than for men. They were also lower for people with disabilities. The program should do more to improve labor market outcomes for women and people with disabilities.

WORKFORCE INVESTMENT ACT TITLE I-B ADULT PROGRAM

The Workforce Investment Act (WIA) Title I-B Adult program prepares individuals 18 years and older for participation in the labor force by providing core services and access to job training and other services. Core services, which are available to all adults, include skill assessment, labor market information, consumer reports on training programs, and job search and placement assistance. Second and third tier services are available for eligible adults unable to obtain jobs through core services alone. Priority is given to welfare and low-income clients. Intensive training and services may include more intensive assessments, individual counseling, employment planning, and prevocational and vocational training.

Employment Security Department (ESD) administers the program at the state level. Twelve local workforce development councils, in consultation with chief local elected officials, oversee WIA activities in their local area. Services are coordinated through the state's one-stop career center system called WorkSource.

This study includes information obtained on 4,443 adults who left the program during the 2003-2004 program year. Employment-related information also was obtained ESD wage files in Washington, Idaho, and Oregon, and federal employment records. In addition, 877 participants responded to a telephone survey, providing additional information on employment, training, and satisfaction with the program.⁷⁹ Employer satisfaction was assessed through survey responses from 165 firms that hired employees who recently completed a WIA program.⁸⁰

The median length of participant enrollment in the WIA Adult program was eight months for those leaving during 2003-2004, virtually the same length as for those leaving in 2001-2002.

Participant Characteristics

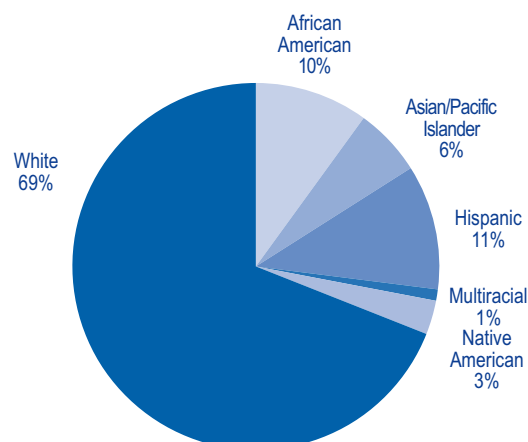
Participants in the WIA Adult program were more likely to be a member of a racial or ethnic minority group, female, and have less education than the general state population. Among those leaving the program during 2003-2004, 31 percent were people of color (Figure 1).⁸¹ Fifty-seven percent were women.

⁷⁹The responses from the participant satisfaction survey were weighted to reflect the distribution of WIA adults by workforce development council.

⁸⁰The employer survey includes employers who hired a participant who completed at least one of the three WIA programs: adult, dislocated worker, or youth.

⁸¹In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 WIA Adults by Race and Ethnicity



When they enrolled, 16 percent had neither a high school diploma nor a GED, and only 39 percent had previously attended college.⁸² Fourteen percent had limited English proficiency and ten percent received public assistance⁸³ while enrolled in the program. The typical (median) age when leaving the program was 38; one quarter was over 48 years of age.

Competency Gains

Most participants enroll in the WIA Adult program for employment-related reasons. Based on survey results, 80 percent of adults entered the program in order to learn skills for a new job, 73 percent enrolled to get job search assistance, and 57 percent enrolled for on-the-job training.⁸⁴ About one fifth of the participants said they enrolled to improve basic skills (reading, math, and/or English speaking).

Fifty-nine percent of WIA adults reported receiving some type of training as part of their program. As in the previous study, the most common type of training was in computer and job-specific skills (Figure 2).

The majority of WIA adults who received training felt it improved their skills (Figure 3). Similar to two years ago, the percentage reporting their skills improved “a lot” was highest for occupational training, particularly machinery operation and job-specific skills. The majority indicated “a lot” of improvement in reading, writing, and work habit skills, unlike two years ago when less than the majority so indicated.

Among those employed seven to nine months after leaving the WIA Adult program, 59 percent said their training was related to that job, down from 63 percent reported by adults two years ago.

FIGURE 2 WIA Adults Receiving Various Skills Training (percentages)

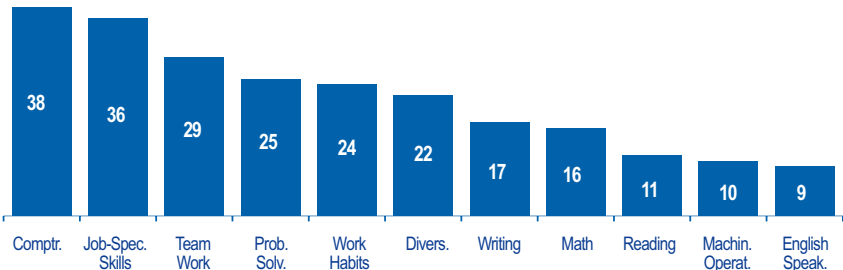
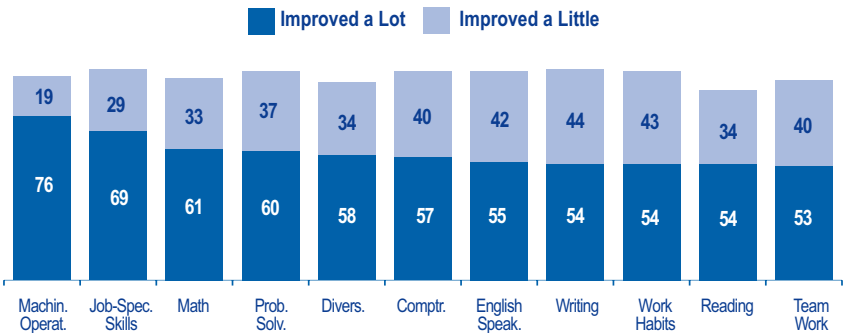


FIGURE 3 WIA Adults Receiving Various Skills Training Who Reported Their Skills Improved a Little or a Lot (percentages)



Administrative records data provide additional information on training received by WIA participants.⁸⁵ These data suggest 42 percent of the WIA adults leaving the program during 2003-2004 received occupational skills training as part of their program.⁸⁶ Eleven percent received on-the-job training.⁸⁷ (Note that participants can receive more than one type of training.)

⁸²According to the 2004 Washington State Population Survey, of those aged 16-74, 11 percent have less than the equivalent of a high school diploma, and 63 percent had attended college.

⁸³Public assistance recipients includes 6.5 percent who received cash assistance from state or local General Assistance, Refugee Cash Assistance, or Supplemental Security Income; 3.3 percent who received Temporary Aid for Needy Families (TANF); and 0.3 percent who received both types of assistance.

⁸⁴Participants can indicate more than one reason for enrolling.

⁸⁵These data are collected through the Service, Knowledge, and Information Exchange System (SKIES) developed by ESD.

⁸⁶Occupational skills training in the administrative records data could include the following types of services: occupational skills training; programs that combine workplace training with related instruction; training programs operated by the private sector; skill upgrading and retraining; entrepreneurial training; job readiness training; and customized training.

⁸⁷On-the-job training refers to training provided by an employer to a paid participant engaged in productive work that (a) provides knowledge or skills essential to the performance of the job; (b) provides reimbursement to the employer or up to 50 percent of the wage of the participant; and (c) is limited to the period of time required for a participant to become proficient in the occupation.

These data also included information on degree or credential attainment. Among those leaving the program during 2003-2004, 5 percent received an associate degree, 10 percent received occupational skills licenses, and 26 percent obtained an occupational skills certificate/credential.

Participant Satisfaction

Survey results indicate participants were generally satisfied with the program. Eighty-six percent of participants reported they were satisfied with the overall quality of the program. Eighty-three percent said their educational objectives had been met. These are virtually the same levels of satisfaction that were reported in the last survey (2001-2002). Participants tended to be “very satisfied” with various features of the program including program cost, facilities, times offered, and location (Figure 4). They were less satisfied with their opportunity to interact with instructors outside of their program.

Similar to previous surveys, WIA adults most frequently reported needing information on job openings and financial assistance (Figure 5).

Most who needed these support services received them. The largest unmet need⁸⁸ was for information about job openings. This is not a new problem; the percentage was about the same in a previous survey.

Employer Satisfaction

It was not feasible to survey employers about each WIA program included in the study (Adult, Dislocated Worker, and Youth programs) separately because there were too few individuals coming out of each program for a sufficient percentage of employers in the state to have had experience employing recent participants. Employers were instead asked about workers who had been trained by WIA. This section presents findings on employer satisfaction with new employees who completed any type of WIA program.

⁸⁸Unmet need refers to cases where the student reports that either they did not receive the required service or what was provided did not meet their needs.

Overall, the results indicate the majority of employers were satisfied with the quality and productivity of these workers (Figure 6). The percentage indicating being “very satisfied” was lower in this survey than in the previous.

FIGURE 4 WIA Adults Very or Somewhat Satisfied With Program Features (percentages)

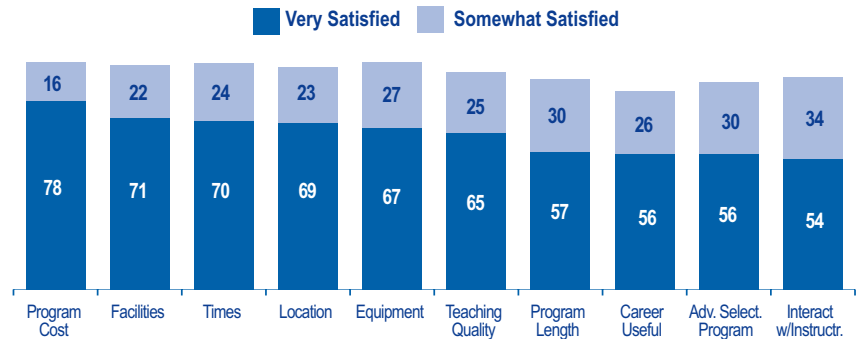


FIGURE 5 WIA Adults Needing a Service and Leaving With Need Unmet (percentages)

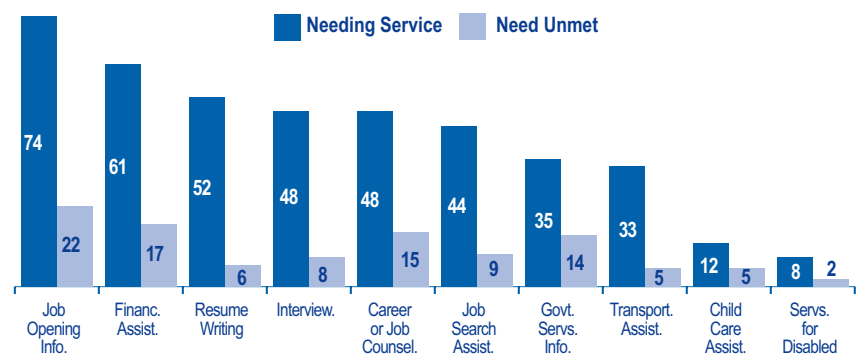


FIGURE 6 Employers Very or Somewhat Satisfied With Various Skills of New Employees Who Recently Completed a WIA Program (percentages)



There were mixed results in terms of being “very satisfied” with general workplace skills, occupational skills, and basic skills. While relatively higher percentages of employers were “very satisfied” with computer and communication skills and work habits, low percentages were “very satisfied” with teamwork, job-specific, math, and writing skills of WIA participants.

Employment and Earnings

Eighty-two percent of the 2003-2004 WIA Adult participants reported being employed during the period seven to nine months after the program (Figure 7).⁸⁹ To find out more about the participants’ postprogram employment and earnings, we matched participant records with ESD wage files from

Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

⁸⁹In the survey, participants were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

FIGURE 7 Employment and Earnings of WIA Adults in the Third Quarter After Leaving Program

	1995-96*	1997-98*	1999-2000*	2001-2002	2003-2004
Percentage self-reporting employment during third quarter after leaving program	81	79	83	81	82
Percentage with employment reported by employers to ESD the third quarter after leaving program	61	71	67	66	69
Median quarterly hours worked, of those working	397	429	424	430	440
Percentage employed full-time (averaging 30 or more hours/week) of those working	51	54	53	57	58
Median annualized earnings of those working	\$13,549	\$16,475	\$16,672	\$17,630	\$18,352
Size of household in which median earnings would support at poverty level	2.2	3.1	3.2	3.5	3.7
Size of household in which median earnings would support at twice poverty level	0.7	0.9	0.9	0.9	1.0
Median hourly wage of those working	\$8.87	\$9.93	\$10.44	\$10.77	\$10.93
Percentage self-reporting receipt of medical benefits from employer	51	53	65	59	61
Percentage self-reporting receipt of pension benefits from employer	23	29	31	34	35

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

*Figures from 1995 through 2000 are for the Job Training Partnership Act (JTPA) II-A Adult program.

Record matches found 69 percent had reported employment during the third quarter after they left the program. Their median hourly wage⁹⁰ was \$10.93, and their median annualized earnings were \$18,352. Labor market outcomes for those leaving the WIA Adult program in 2003-2004 were better than for those leaving in 2001-2002 and extend the decreasing trends starting from 1995-1996.

Postprogram employment among WIA adults continues to be concentrated in retail trade and services industries. The share of employment, however, is down from the previous study in retail trade and up in services, particularly in health care service industries (Figure 8).

Employment outcomes and earnings varied somewhat by gender, race and ethnicity, and disability status. During the third quarter after leaving the program, female and male participants were as likely to be employed and working full time. Among those employed, however, the hourly wage rate for women was 92 percent of men. The good news is that this is up from 87 percent for those leaving in 2001-2002.

Participants from racial and ethnic minority backgrounds were as likely to be employed and working full time as white participants. The median hourly wage for African Americans was 92 percent that of whites, and the median hourly wage for Hispanics was 96 percent that of whites.

Administrative records suggest 9 percent of the WIA adults included in this study had a disability. These participants were less likely to have employment reported to ESD (57 versus 70 percent), and their median wage was 91 percent of those without a disability.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

Figure 8 Industry of Employment of WIA Adults in the Third Quarter After Leaving Program: 2003-2004

Industry Group	Employment
Natural Resources and Mining	1.7%
Construction	5.1%
Manufacturing	9.2%
Transportation, Warehousing, and Utilities	4.7%
Wholesale Trade	3.0%
Retail Trade	11.3%
Information	1.3%
Financial Activities	5.2%
Services	55.6%
Professional, Scientific, and Technical	2.8%
Administration and Support, and Waste Management and Remediation	12.1%
Education	3.3%
Health Care	17.5%
Social Assistance	4.8%
Arts, Entertainment, and Recreation	2.1%
Accommodation and Food	7.4%
All Other Services	5.7%
Public Administration	2.9%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

⁹⁰All wages and earnings are stated in 2005 Q1 dollars.

In order to estimate these impacts, individuals who participated in a WIA Adult program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in fiscal year 2003-2004 and longer-term impacts for individuals who exited in fiscal year 2001-2002.

The WIA Adult program has positive net impacts on employment, wages, hours worked, and earnings. Participation increases lifetime earnings.

Figure 9 shows the short-term net impacts of the WIA Adult program. During the third quarter after the 2003-2004 participants left the program, participation was associated with an increase of 9.1 percentage points in employment as reported to ESD, a net impact on wage rates of \$2.09,⁹¹ a net impact on hours worked of 59.8 hours, and a net impact on

quarterly earnings of \$797. Participation, however, is associated with increases in the percentages receiving UI benefits and public assistance.

WIA Adult programs offered participants a variety of services, and not all received training. Those who received training⁹² also experienced positive employment, wage, hours worked, and earnings outcomes. The size of the net impacts for those who received training compared to all participants were similar in the short-term but larger in the longer-term, an indicator of the value of training for those participants.

The longer-term net impacts are observed 9 to 12 quarters after participants left the program during the 2001-2002 program year (Figure 10). The program also has positive longer-term impacts on employment, hourly wages, hours worked, and earnings; the magnitudes of the net impacts, however, are smaller than in the short-term. In the longer-term, participation was associated with increases in the percentages receiving food stamps and UI benefits.

⁹¹All dollar amounts are expressed in 2005 Q1 dollars.
⁹²This includes job preparatory training, worker retraining, and work-related basic skills training.

FIGURE 9 **Short-Term Net Impact Results for WIA Adults Who Left the Program During PY 2003-2004**

	All Participants	Participants Who Received Training
Employment: percentage		
in reported employment	9.1	8.6
Mean Hourly Wage	\$2.09	\$1.92
Mean Hours Worked		
Per Quarter	59.8	57.2
Mean Quarterly Earnings	\$797	\$871
TANF: ** percentage		
receiving aid	0.5	0.0*
Food Stamps: percentage		
receiving	5.1	4.1
Medical Benefits: percentage		
receiving	6.2	6.1
UI: percentage receiving	1.7	0.3*

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Earnings and wages are in 2005 Q1 dollars.
 *Not statistically significant at the 0.05 level.
 ** Temporary Assistance for Needy Families

FIGURE 10 **Longer-Term Net Impact Results for WIA Adults Who Left the Program During PY 2001-2002**

	All Participants	Participants Who Received Training
Employment: percentage		
in reported employment	6.6	8.1
Mean Hourly Wage	\$0.65	\$1.06
Mean Hours Worked		
Per Quarter	35.7	46.9
Mean Quarterly Earnings	\$443	\$623
TANF: percentage receiving aid ...	0.7*	0.5*
Food Stamps: percentage		
receiving	2.8	2.6*
Medical Benefits: percentage		
receiving	2.0*	1.5*
UI: percentage receiving	4.0	5.3

Notes: Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.
 * Not statistically significant at the 0.05 level.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.⁹³ Program costs include both direct costs and support payments borne by the state and the foregone earnings borne by participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each participant in WIA Adult programs, the public (taxpayer) cost is \$5,481 over the length of their enrollment, and the participant cost is \$1,060 in foregone earnings while enrolled (Figure 11). During the first two and one-half years after leaving the program, the average participant will gain \$5,794 in earnings. During the course of working life to age 65, they will gain about \$28,900 in net earnings (earnings minus foregone earnings) and about \$6,000⁹⁴ in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive the training.

Projected participant benefits to age 65 outweigh public costs for WIA Adult services and training by a ratio of 6.4 to 1, or \$34,874 to \$5,481.⁹⁵

From the time of leaving the program to age 65, the public is forecast to gain almost \$5,200 per participant in additional social security, Medicare, and federal income and state sales taxes; the public, however, is expected to pay out \$240 per participant in total UI benefits and social welfare benefits. Together, the program cost and small increase in transfer payments is about \$555 greater than the increase in tax revenues.

FIGURE 11 Benefits and Costs of WIA Adult Program

	First 2.5 Years After Program Participant	Public	Forecast to Age 65 Participant	Public
Benefits				
Earnings	\$5,794		\$29,945	
Employee Benefits	\$1,159		\$5,989	
Taxes	-\$999	\$999	-\$5,166	\$5,166
Transfers*	-\$1,971	\$1,971	\$240	-\$240
Costs				
Foregone Earnings	-\$1,060		-\$1,060	
Program Costs	\$0	-\$5,481	\$0	-\$5,481
TOTAL	\$2,922	-\$2,511	\$29,949	-\$555

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

*Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

⁹³Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

⁹⁴This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$5,800.

⁹⁵This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

Areas for Improvement

WIA Adult program participants were generally satisfied with the program. Labor market outcomes for adults leaving WIA during 2003-2004 compared favorably to those leaving in 2001-2002. Postprogram employment rates and earnings were slightly higher.

There are areas for improvement. While most participants were satisfied with the services they received, many reported an unmet need for information on job openings.⁹⁶ This is an unmet need also expressed by participants leaving in 2001-2002.

Although earnings increased from those reported two years ago, more could be done to prepare participants for higher wage jobs. Only one-third of WIA adults received job-specific skills training.

Given the low educational attainment of participants prior to entering the program, more should receive basic skills instruction in reading, writing, and math. Among the adults leaving WIA during 2003-2004, less than one-fifth said they received training in writing or math skills, and only 11 percent were trained in reading skills. Furthermore, only about half of these participants reported their reading and writing skills in these areas improved substantially; 61 percent reported their math skills improved “a lot.”

⁹⁶Unmet need refers to cases where the student reports that either they did not receive the required service or what was provided did not meet their needs.

DIVISION OF VOCATIONAL REHABILITATION

The Division of Vocational Rehabilitation (DVR) offers services to help individuals with disabilities become employed. The primary objective is employment. Depending on the individual and their functional limitations, this may include part-time employment, self-employment, homemaking, or supported employment. Services are based on the needs of the individual and include assessment; counseling; vocational, academic, and other training services; physical and mental restoration services; assistive technology; independent living services; mobility and transportation; communication services; and job search and placement.

Eligibility requires certification by DVR that the client:

- Has a physical, mental, or sensory impairment that constitutes or results in a substantial impediment to employment.
- Can benefit in terms of an employment outcome from vocational rehabilitation services.
- Requires vocational rehabilitation services to prepare for, enter into, engage in, or retain employment.

These strict eligibility requirements should be considered when reviewing outcomes of DVR clients.

This study includes information from administrative records for 4,434 clients who left DVR programs during the 2003-2004 program year. The median length of program enrollment among those leaving DVR programs in 2003-2004 was 21 months.

Significant programmatic changes need to be considered when comparing outcomes for DVR clients over time. The most important of these is the adoption of an order-of-selection policy. Since the end of 2000, when program funds and staff resources

were insufficient to serve all eligible applicants, priority has been given to participants with the most significant disabilities: priority 1 was individuals with most severe disabilities; priority 2 was individuals with severe disabilities; and priority 3 was individuals with disabilities. Of the DVR clients leaving the program during 2003-2004, 59 percent were priority 1; 40 percent were priority 2; and 1 percent were priority 3.

This study includes information from DVR administrative records; Employment Security Department (ESD) wage files from Washington, Idaho, and Oregon; and federal employment records. In addition, 195 clients completed a survey, providing more detailed data on employment and satisfaction with the program.⁹⁷

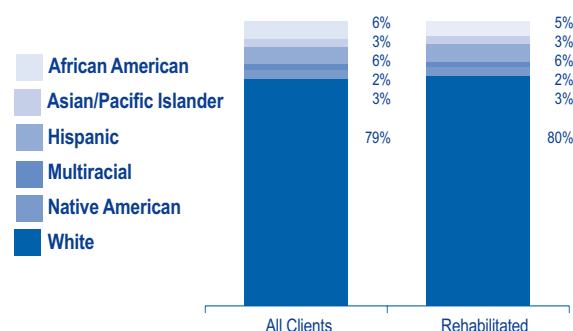
Participant Characteristics

The racial and ethnic composition of 2003-2004 clients roughly reflects the general population (Figure 1).⁹⁸ It also make up a similar percentage of those rehabilitated.

⁹⁷Responses from the participant survey were weighted to reflect the closure status—"Rehabilitated" versus "Other than Rehabilitated"—distribution of those leaving the program in 2003-2004.

⁹⁸In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 DVR Clients by Race and Ethnicity



Forty-four percent of the 2003-2004 clients were women, similar to the percentage of the 2001-2002 clients. Of those rehabilitated, 43 percent were women. The median age upon entering the program was 38; one quarter was age 47 or older. At the time of application, 69 percent had not previously had post-secondary education, 15 percent had postsecondary education but no degree or certificate, 9 percent had an associate degree or a vocational certificate, and 7 percent had a bachelor's degree or higher.

Competency Gains

Forty-one percent of the DVR clients were classified as rehabilitated upon leaving the program (i.e., they were working for 90 days prior to exit). This rehabilitation rate is slightly lower than the 49 percent reported two years ago.

Based on survey results, most DVR clients enrolled in the program to learn skills for a new job (79 percent) and to get job search assistance (77 percent).⁹⁹ Clients indicated receiving these and other types of training (Figure 2). In addition, DVR offers other work-related services in addition to training; for example, some clients receive physical and mental restoration services, assistive technology, and communication services.

As in the previous study, almost all clients who received a particular type of training reported at least some improvement in their skills (Figure 3).¹⁰⁰ Comparisons indicate that similar percentages indicated “a lot” of improvement across the skills with the exception of work habits in which a much lower percentage of the 2003-2004 clients so reported.

Among those employed in the third quarter after leaving their program, 70 percent indicated that their training was related to their job.

Participant Satisfaction

Sixty-three percent of clients were “very satisfied” or “somewhat satisfied” with their DVR program, down from sixty-nine percent who reported two years ago. As in the previous study, respondents reported relatively high levels of satisfaction with location, times, and the facilities (Figure 4). Satisfaction was lower with respect to advice on selecting programs and usefulness of the program to their careers.

FIGURE 2 DVR Clients Receiving Various Skills Training (percentages)



FIGURE 3 DVR Clients Receiving Various Skills Training Who Reported Their Skills Improved a Little or a Lot (percentages)

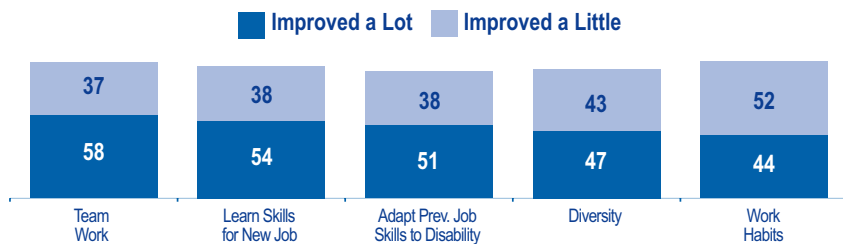
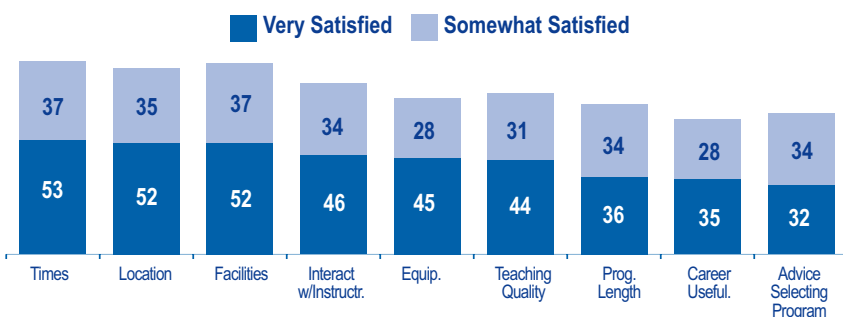


FIGURE 4 DVR Clients Very or Somewhat Satisfied With Program Features (percentages)



⁹⁹Note that respondents could select more than one reason for enrolling in the program.

¹⁰⁰In the survey, too few clients indicated receiving problem-solving, machinery operation, and writing skills training to reliably assess the levels of improvement and, therefore, are not included in Figure 3.

Similar to two years ago, DVR clients indicated job counseling and information about job openings as the support services they needed most while participating in the program (Figure 5). While most clients had their support service needs met, as in the past, considerable percentages left with an unmet need for job counseling, information about job openings, and on-the-job training.

Employment and Earnings

According to the survey responses, 40 percent of 2003-2004 clients were employed during the period seven to nine months after leaving their program (Figure 6).¹⁰¹ To find out more about the clients' post-program employment and earnings, we matched client records with ESD wage files from Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found 41 percent had reported employment during the third quarter after they left the program. The median hourly wage¹⁰² was \$9.43, and median annualized earnings were \$11,090.

¹⁰¹In the survey, clients were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

¹⁰²All wages and earnings are stated in 2005 Q1 dollars.

FIGURE 5 DVR Clients Needing a Service and Leaving With Need Unmet (percentages)

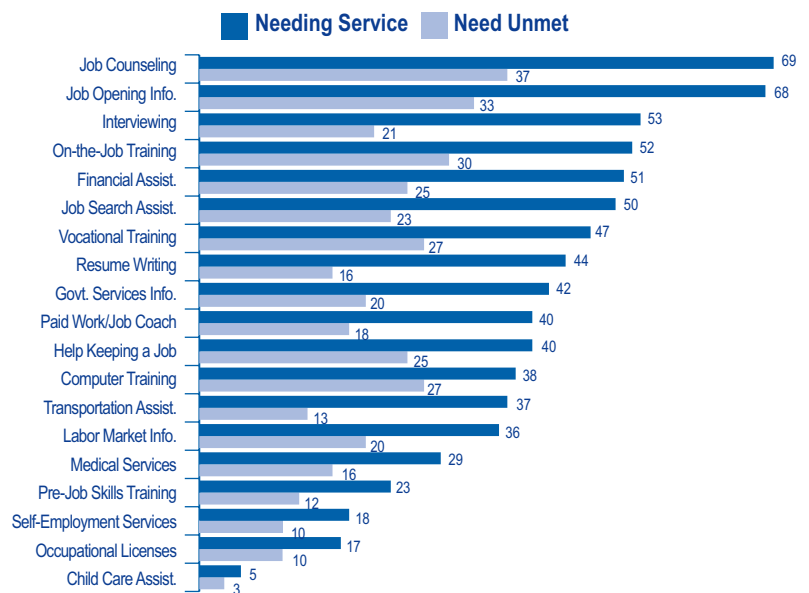


FIGURE 6 Employment and Earnings of DVR Clients in the Third Quarter After Leaving Program

	1997-98		1999-2000		2001-2002		2003-2004	
	All	Rehabilitated	All	Rehabilitated	All	Rehabilitated	All	Rehabilitated
Percentage self-reporting employment during third quarter after leaving program	na	na	60	na	52	na	40	na
Percentage with employment reported by employers to ESD during the third quarter after leaving program	56	72	57	71	46	72	41	70
Median quarterly hours worked, of those working	381	400	377	397	310	346	299	323
Percentage employed full-time (averaging 30 or more hours/week)								
of those working	49	51	48	51	43	46	39	43
Median annualized earnings of those working	\$13,366	\$14,317	\$14,097	\$14,749	\$12,955	\$14,450	\$11,090	\$12,478
Size of household in which median earnings would support								
at poverty level	2.2	2.5	2.4	2.6	2.0	2.5	1.5	1.9
twice poverty level	0.7	0.7	0.7	0.8	0.7	0.8	0.6	0.7
Median hourly wage of those working	\$9.25	\$9.40	\$9.85	\$9.93	\$10.32	\$10.53	\$9.43	\$9.46
Percentage self-reporting receipt of medical benefits from employer	na	na	40	na	44	na	37	na
Percentage self-reporting receipt of pension benefits from employer	na	na	22	na	25	na	18	na

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

Those deemed rehabilitated upon leaving the program (i.e., those who had been working for 90 days) tended to have better employment and earnings outcomes than those not considered rehabilitated.

DVR clients leaving in 2003-2004 tended to have lower employment rates and earnings than those leaving in 2001-2002. The order-of-selection policy may have contributed to these declines.

Employment among DVR clients continues to be heavily concentrated in retail trade and services industries (Figure 7).

Gender differences in postprogram employment and hourly wages are similar. Women’s median annual earnings, however, are lower than men’s (\$10,368

versus \$11,914). There is less variation in labor market outcomes by race and ethnicity among DVR clients than participants in many other programs. There are, however, some significant differences. Employment rates are significantly lower for African American (32 percent) clients than for whites (41 percent). Median annual earnings are lower for African Americans (\$9,804) and Native Americans (\$10,290) than for whites (\$10,812).

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the DVR program were compared to individuals who had similar characteristics, but who did not participate in any of the programs in the study. The comparison group members were selected from DVR-eligible applicants who left the program before the development of an employment plan. Short-term net impacts were derived by examining outcomes for individuals who exited the program in fiscal year 2003-2004 and longer-term impacts for individuals who exited in fiscal year 2001-2002.

FIGURE 7 Industry of Employment of DVR Clients in the Third Quarter After Leaving Program: 2003-2004

Industry Group	Employment
Natural Resources and Mining	1.8%
Construction	3.6%
Manufacturing	4.9%
Wholesale Trade	2.2%
Retail Trade	17.3%
Food and Beverage Stores	5.5%
Gasoline Stations	1.1%
General Merchandise Stores	4.3%
All Other Retail Trade	6.4%
Transportation, Warehousing, and Utilities	3.7%
Information	1.8%
Financial Activities	2.9%
Services	58.0%
Administration and Support, and Waste	
Management and Remediation	10.3%
Education	5.6%
Health Care	10.6%
Social Assistance	9.2%
All Other Services	22.3%
Public Administration	3.8%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

The DVR program has positive net impacts on employment, hours worked, and earnings in the short-term, and hourly wage in the longer-term. Participation increases lifetime earnings.

Figure 10 shows the short-term and longer-term net impacts of DVR participation. During the third quarter after the 2003-2004 clients left the program, participation is associated with an increase of 6.8 percentage points; a net impact of 16.3 hours worked per quarter; and a net impact on mean quarterly earnings of \$222.¹⁰³ Participation is associated with decreases in the percentages receiving Temporary Assistance to Needy Families (TANF) and food stamp benefits.

The longer-term net impacts of participation are observed 9 to 12 quarters after clients left DVR during the 2001-2002 program year. In the longer term, participation is associated with increases in employment, hourly wage, hours worked, quarterly earnings, and the percentage receiving UI benefits, and is associated with decreases in the percentages receiving TANF and food stamps.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.¹⁰⁴ Program costs include both direct costs and support payments borne by the state and the tuition and foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs

are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for clients leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each client in a DVR program, the public (taxpayer) cost is \$8,114 over the length of their enrollment (Figure 11). Typically while participating in employment and training programs, individuals

FIGURE 10 Short-Term and Longer-Term Net Impact Results for DVR Clients Who Left the Program During PY 2003-2004 and PY 2001-2002

	Short-Term 2003-2004 Exitors	Longer-Term 2001-2002 Exitors
Employment: percentage in reported employment	6.8	11
Mean Hourly Wage	\$0.32*	\$1.34
Mean Hours Worked Per Quarter	16.3	44.8
Mean Quarterly Earnings	\$222	\$688
TANF: percentage receiving aid	-0.6*	-0.8
Food Stamps: percentage receiving	-3.7*	-3.9
Medical Benefits: percentage receiving	1.0*	-3.0*
UI: percentage receiving	-0.2*	2.6

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

FIGURE 11 Benefits and Costs of DVR Programs

	First 2.5 Years After Program Participant	After Program Public	Forecast to Age 65 Participant	Public
Benefits				
Earnings	\$7,843		\$45,850	
Employee Benefits	\$1,568		\$9,170	
Taxes	-\$1,353	\$1,353	-\$7,909	\$7,909
Transfers*	-\$624	\$624	-\$1,470	\$1,470
Costs				
Foregone Earnings**	\$613		\$613	
Program Costs	\$0	-\$8,114	\$0	-\$8,114
TOTAL	\$8,046	-\$6,137	\$46,254	\$1,264

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

*Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

**Instead of foregone earnings, DVR clients had positive net earnings while participating.

¹⁰³All dollar amounts are expressed in 2005 Q1 dollars.

¹⁰⁴Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

forego earnings. DVR clients, however, had net earnings during participation of \$613 over nonparticipants. During the first two and one-half years after leaving DVR, the average client will gain \$7,843 on earnings. During the course of working life to age 65, the average client will gain about \$46,500 in net earnings (net impact earnings plus earnings during participation) and about \$9,200¹⁰⁵ in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive DVR services.

Projected participant benefits to age 65 outweigh public costs for the DVR program by a ratio of 6.9 to 1, or \$55,633 to \$8,114.¹⁰⁶

The total public (taxpayer) costs are less than the program costs because DVR participation is associated with increased tax revenues and decreased state social welfare expenditures. From the time of leaving the DVR program to age 65, the public is forecast to gain over \$7,909 per participant in additional social security, Medicare, and federal income and state sales taxes, and to save \$1,470 per client in total UI benefits and social welfare costs-greater than the direct cost of DVR services.

Areas for Improvement

When considering labor market outcomes, remember every DVR client faces substantial impediments to employment. Moreover, the severity of these impediments increased after the adoption of an order-of-selection policy toward the end of 2000. As is the case in several other programs, DVR clients report a substantial unmet need for job counseling services and information about job openings. Relatively high percentages of clients also report an unmet need for job counseling, information about job openings, and on-the-job training.

The majority (54 percent) who received job-specific training for a new job reported their skills improved “a lot.” A similar proportion (51 percent) reported substantial improvement in adapting previous job skills.

¹⁰⁵This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$9,300.

¹⁰⁶This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

DIVISION OF SERVICES FOR THE BLIND

Department of Services for the Blind (DSB) programs provide vocational rehabilitation services including information, assessment, and referral; vocational counseling including guidance, referral, and placement; and rehabilitation training in adaptive skills, job skills, and assistive technology. Occupational licenses, tools, equipment, technological aids, and other goods and services that can be reasonably expected to help clients achieve successful employment outcomes are also provided. In order to receive services, an individual must be legally blind or have a visual disability that causes an impediment to employment, and vocational rehabilitation services are required for the individual to prepare for, enter, engage in, or retain employment.

The study includes information from administrative records for the 239 clients who left DSB programs during the 2003-2004 program year. The median length of program enrollment was 17 months.

This study also collected information from Employment Security Department (ESD) wage files from Washington, Idaho, and Oregon, and federal employment records. In addition, 89 clients completed a participant survey, providing more detailed data on employment and satisfaction with the program.¹⁰⁷

Participant Characteristics

The racial and ethnic composition of the 2003-2004 clients roughly reflects of the general population (Figure 1).¹⁰⁸ They also make up a similar percentage of those rehabilitated.

Forty-one percent of the 2003-2004 DSB clients were women, similar to the forty-five percent of the 2001-2002 clients. The median age upon entering the

program was 41; one quarter was over age 50. At the time of application, 41 percent had not previously had postsecondary education, 21 percent had postsecondary education but no degree or certificate, 11 percent had an associate degree or a vocational certificate, and 27 percent had a bachelor's degree or higher.

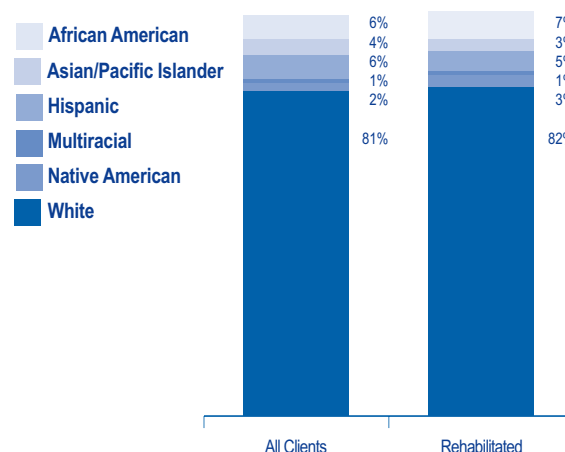
Competency Gains

Fifty-seven percent of DSB clients were classified as rehabilitated upon leaving the program (i.e., they were working for at least 90 days prior to leaving the program), slightly lower than the sixty-three percent of those leaving the program in 2001-2002.

¹⁰⁷The responses from the participant survey were weighted to reflect the closure status—"Rehabilitated" versus "Other than Rehabilitated"—distribution of those leaving the program in 2003-04.

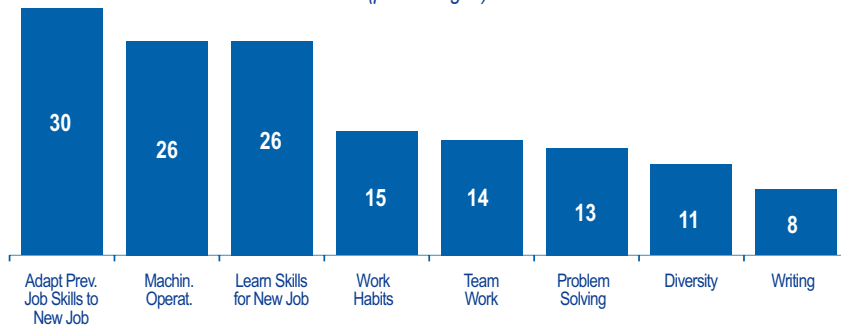
¹⁰⁸In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 DSB Clients by Race and Ethnicity



Division of Services for the Blind

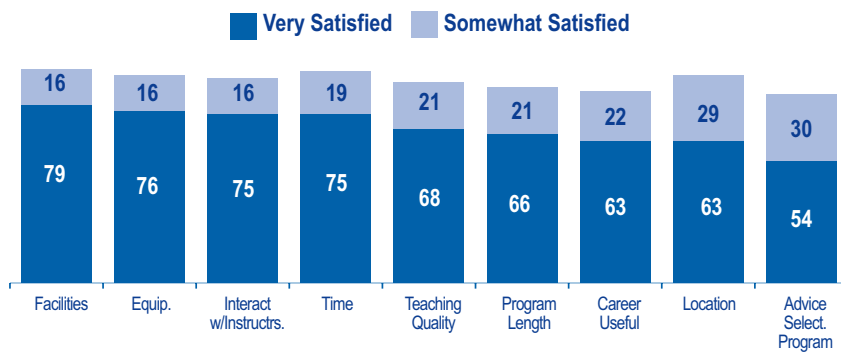
FIGURE 2 DSB Clients Receiving Various Skills Training (percentages)



Based on survey results, most DSB clients (68 percent) enrolled in the program to obtain equipment or technology needed because of their disability. About half of all clients cited learning skills for a new job as one reason for enrolling.¹⁰⁹

DSB clients were more likely to report receiving training in technical skills rather than workplace or basic skills (Figure 2).¹¹⁰

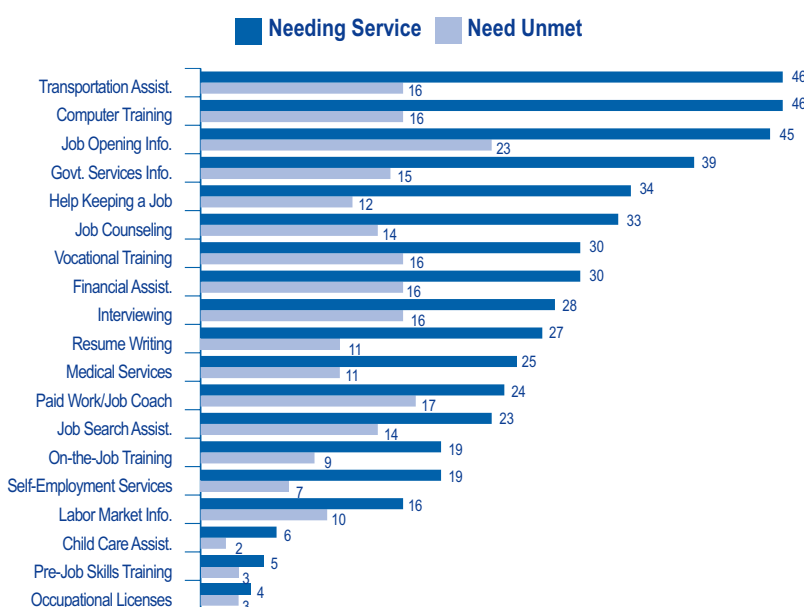
FIGURE 3 DSB Clients Very or Somewhat Satisfied With Program Features (percentages)



Participant Satisfaction

Eighty-seven percent of clients said they were “very satisfied” or “somewhat satisfied” with their DSB program, up from the eighty-one percent of the 2001-2002 DSB clients. Over three-fourths of the respondents were “very satisfied” with the facilities, equipment, times, and the opportunity to interact with instructors (Figure 3). Satisfaction was lowest with respect to advice on choosing programs

FIGURE 4 DSB Clients Needing a Service and Leaving With Need Unmet (percentages)



Similar to two years ago, DSB clients indicated computer training, information about job openings, information about government services, and transportation assistance as the support services most in need while participating in the program (Figure 4).¹¹¹ Similar to two years ago, a relatively high percentage left with an unmet need¹¹² for information about job openings.

¹⁰⁹ Respondents were allowed to indicate more than one reason for enrolling.

¹¹⁰ The number of clients who reported receiving training in the various areas was too small to reliably assess extent of improvement.

¹¹¹ The number of respondents to the survey was small (89) and, therefore, the percentages reported are relatively unstable. However, because the trends are so overwhelmingly positive, they are informative.

¹¹² Unmet need refers to cases where the client reports that either they did not receive the required service or what was provided did not meet their needs.

Employment and Earnings

According to the survey responses, 67 percent of the 2003-2004 clients were employed during the period seven to nine months after leaving their program (Figure 5).¹¹³ To find out more about the clients' postprogram employment and earnings, we matched client records with ESD wage files from Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with employment reported for unemployment insurance (UI) purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found 49 percent of DSB clients had reported employment during the third quarter after leaving the program. Among those who were considered rehabilitated upon leaving the program (i.e., those who had been working for 90 days prior to exit), 72 percent had reported employment the third quarter after exit, a higher percentage than for the 2001-2002 clients.

¹¹³In the survey, clients were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

FIGURE 5 Employment and Earnings of DSB Clients in the Third Quarter After Leaving Program

	2001-2002		2003-2004	
	All	Rehabilitated	All	Rehabilitated
Percentage self-reporting employment during third quarter after leaving program	70	na	67	na
Percentage with employment reported by employers to ESD during the third quarter after leaving program	41	62	49	72
Median quarterly hours worked, of those working	430	430	411	425
Percentage employed full-time (averaging 30 or more hours/week) of those working	61	61	55	55
Median annualized earnings of those working	\$20,824	\$21,374	\$21,762	\$23,840
Size of household in which median earnings would support at poverty level	4.5	4.6	4.7	5.4
Size of household in which median earnings would support at twice poverty level	1.3	1.3	1.4	1.7
Median hourly wage of those working	\$14.10	\$14.50	\$12.68	\$12.99
Percentage self-reporting receipt of medical benefits from employer	62	na	56	na
Percentage self-reporting receipt of pension benefits from employer	46	na	39	na

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

Among clients who were working during the third postprogram quarter, the median hourly wage¹¹⁴ was \$12.68, and they had a median annualized earnings of \$21,762. As expected, rehabilitated clients had better employment and earnings outcomes than all clients combined.

As in the past, employment among DSB clients is heavily concentrated in services; primarily education, health care, and social assistance (Figure 6).

Females and males have similar employment rates and earnings outcomes. The median hourly wage for females, however, is about 89 percent of males.¹¹⁵

FIGURE 6 Industry of Employment of DSB Clients in the Third Quarter After Leaving the Program: 2003-2004

Industry Group	Employment
Manufacturing	13.1%
Retail Trade	10.3%
Services	55.1%
Education	18.7%
Health Care	9.3%
Social Assistance	7.5%
Accommodation and Food	8.4%
All Other Services	11.2%
Public Administration	7.5%
All Other Industries	14.0%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short-term and longer-term impacts of program participation on employment, hourly wages, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, individuals who participated in the DSB program were compared to individuals who had similar characteristics, but who had not participated in any of the programs in the study. The comparison group members were selected from DSB-eligible applicants who left the program before the start of an employment plan. Short-term net impacts were derived by examining outcomes for individuals who exited the program in 2003-2004 and longer-term impacts for individuals who exited in 2001-2002.

¹¹⁴All wages and earnings are stated in 2005 Q1 dollars.
¹¹⁵Given the relatively small number of clients leaving the program each year, we do not have sufficient data to examine differences in labor market outcomes by race and ethnicity.

The DSB program has positive net impacts on employment and hourly wages in the short term, and in the longer term, hours worked and earnings. Participation increases lifetime earnings.

Figure 7 shows the short-term and longer-term net impacts of participation in the DSB program. During the third quarter after the 2003-2004 clients left the program, participation is associated with an increase of 23.7 percentage points in employment as reported to ESD, and a net impact on wage rates of \$4.29¹¹⁶ per hour.

The longer-term net impacts of participation are observed 9 to 12 quarters after clients left the program during the 2001-2002 school year. In the longer term, participation is associated with positive net impacts on employment, hourly wage, hours worked, and quarterly earnings.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.¹¹⁷ Program costs include direct costs and support payments borne by the state and tuition and foregone earnings borne by program participants. Benefits and costs are calculated for the observed period of time and based on a statistical model that estimated the benefits and costs out to age 65. To compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year, and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for clients leaving programs in 2001-2002 because a longer-term follow-up is required for this analysis.

For each DSB client in a program, the public (taxpayer) cost is \$23,243 over the length of enrollment, and the client cost is \$1,010 in foregone earnings while enrolled (Figure 8). During the first two and one-half years after leaving the program,

the average client will gain \$17,223 in earnings. During the course of working life to age 65, the average client will gain over \$77,400 in net earnings (earnings minus foregone earnings) and about \$6,100¹¹⁸ in employee benefits. These are net gains compared to the earnings of similar individuals who did not receive DSB services.

¹¹⁶All dollar amounts are expressed in 2005 Q1 dollars.

¹¹⁷Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

¹¹⁸This employee benefits amount does not account for the reduction in employee benefits associated with foregone earnings. If the same benefit percentage (20 percent) were applied to foregone earnings, the gain in employee benefits in the longer term would be about \$5,900.

FIGURE 7 Short-Term and Longer-Term Net Impact Results for DSB Clients Who Left the Program During PY 2003-2004 and PY 2001-2002

	Short-Term 2003-2004 Exiters	Longer-Term 2001-2002 Exiters
Employment: percentage in reported employment	23.7	20.3
Mean Hourly Wage	\$4.29	\$5.58
Mean Hours Worked Per Quarter	25.9*	78.4
Mean Quarterly Earnings	\$684*	\$1,492
TANF:** percentage receiving aid	0.4*	-4.6*
Food Stamps: percentage receiving	-8.2*	-4.7*
Medical Benefits: percentage receiving	-4.9*	-3.0*
UI: percentage receiving	2.7*	-3.8*

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

** Temporary Assistance for Needy Families

FIGURE 8 Benefits and Costs of DSB Programs

	First 2.5 Years After Program Participant	Public	Forecast to Age 65 Participant	Public
Benefits				
Earnings	\$17,223		\$78,429	
Employee Benefits	\$5,782		\$6,053	
Taxes	-\$2,970	\$2,970	-\$13,529	\$13,529
Transfers*	-\$1,419	\$1,419	-\$2,578	\$2,578
Costs				
Foregone Earnings	-\$1,010		-\$1,010	
Program Costs	\$0	-\$23,243	\$0	-\$23,243
TOTAL	\$17,604	-\$18,853	\$67,365	-\$7,136

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

* Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

Projected participant benefits to age 65 outweigh public costs of DSB programs by a ratio of 3.6 to 1, or \$83,472 to \$23,243.

Nevertheless, from the time of leaving the DSB program to age 65, despite projected net savings of \$2,578 in total UI benefits and other social welfare costs and gains in tax revenues of \$13,529, there remains a net cost to the public of over \$7,100.

Areas for Improvement

When considering their labor market outcomes, remember DSB clients face substantial impediments to employment. Only 49 percent of clients had employment reported in ESD wage files during the third quarter after leaving the program.

Clients expressed high levels of satisfaction with various aspects of the program. While they tend to receive the support services they need while participating, as was the case in other programs, clients reported substantial unmet need for information about job openings. A relatively high percentage of clients also report an unmet need for computer training.

WORKFIRST

Washington's WorkFirst program began in 1997 to assist low-income families become self-sufficient by providing basic skills training, support services, and job search assistance to help parents get a job, keep a job, and move up a career ladder. WorkFirst is unique among workforce development programs in its sole focus on the state's welfare assistance program. It is an important population in terms of state workforce development and overlaps partially with the population served by several of the other workforce development programs in this study.

The analyses of WorkFirst clients are based on the experiences and outcomes of 35,941 individuals who had Temporary Assistance to Needy Families (TANF) spells ending between July 1, 2003, and June 30, 2004. WorkFirst clients received a wide variety of employment and training related services.

The service used by the highest percentage of clients is job search assistance (Figure 1).

The analyses are limited to clients who participated in one or more of the following employment and training components.¹¹⁹

- CJ—Paid Community Job
- JS—Job Search
- PE—Customized Job Skills Training
- BE—Basic Education
- ES—English as a Second Language
- GE—General Education Diploma
- HS—High School
- HW—High Wage or High Demand
- JT—Skills Enhancement Training
- OT—On the Job Training
- VE—Vocational Education
- VU—Vocational Education, Unapproved
- WE—Work Experience
- XS—Structured Community Service

¹¹⁹The component codes are E-JAS component codes.

FIGURE 1 WorkFirst Clients Receiving Various Skills Training Services (percentages)

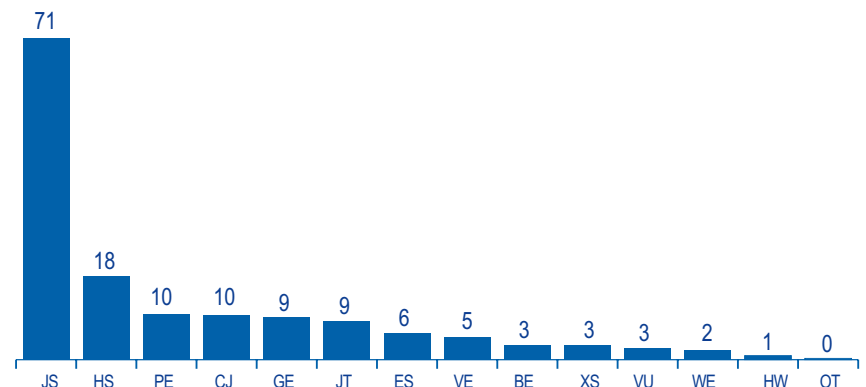
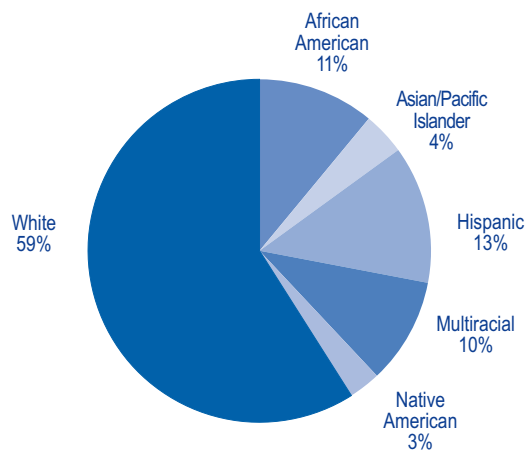


FIGURE 2 WorkFirst Clients by Race and Ethnicity



Participant Characteristics

WorkFirst clients who exited in 2003-2004 were much more racially and ethnically diverse than the state's general population (Figure 2).¹²⁰ Seventy-one percent of the WorkFirst clients are women compared to about fifty percent of the state's general population.

When they participated in WorkFirst, 45 percent had not completed high school (about 18 percent were enrolled in high school at the time), 42 percent had a high school diploma or GED but had not previously attended postsecondary education, 11 percent had attended one to three years of postsecondary education, and 2 percent had completed four or more years of postsecondary education. The median age upon leaving the program was 26 years; one quarter was over age 35.

Employment and Earnings

To find out about clients' postprogram employment and earnings, we matched client records with

FIGURE 3 Employment and Earnings of WorkFirst Clients in the Third Quarter After the End of TANF Spell

	All	Not In Higher Ed. in 3rd Qtr
Percentage with employment reported by employers to ESD during the third quarter after leaving program	48.5	48.4
Median quarterly hours worked, of those working	307	319
Percentage employed full-time (averaging 30 or more hours/week) of those working	37	39
Median annualized earnings of those working	\$10,930	\$11,379
Size of household in which median earnings would support at poverty level	1.4	1.6
Size of household in which median earnings would support at twice poverty level	0.6	0.6
Median hourly wage of those working	\$9.07	\$9.10

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

¹²⁰In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

Employment Security Department (ESD) wage files from Washington, Idaho, and Oregon, and federal wage records. These files contain quarterly earnings and hours-worked information on those individuals with employment reported for unemployment insurance (UI) purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found that just under 50 percent of the 2003-2004 clients had reported employment during the third quarter after the end of their TANF spell (Figure 3). Their median hourly wage¹²¹ was \$9.07, and they had median annualized earnings of \$10,930. The majority of clients were employed in services industries, such as the administrative and support and waste management industry, health care, and accommodation and food services industries (Figure 4).

Employment and earnings varied by gender, race and ethnicity, and disability status. Females were as likely as men to be employed in the third quarter after exit. They were, however, less likely to be working full time (36 percent versus 42 percent) and had an hourly wage that was 91 percent of males (\$8.86 versus \$9.69).

Hispanics were more likely and Native Americans were less likely to be employed than whites during the third quarter after exit. While Asians/Pacific Islanders were more likely to be working full time than whites (43 percent versus 37 percent), African Americans were less likely (34 percent). The median hourly wage for Hispanics was 97 percent of whites; African Americans, Native Americans, and Asians/Pacific Islanders had a median hourly wage that was similar to those of whites.

Earnings and employment outcomes also varied by disability status. Client records suggest 13 percent of the WorkFirst clients included in this study had a disability. Clients with disabilities were less likely than those without disabilities to have employment reported to ESD during the third quarter after exit (31 percent versus 51 percent) and were less likely to be employed full time (28 percent versus 38 percent). Among those working, the median hourly wage rate of those with a disability was 97 percent of those without a disability.

¹²¹All wages and earnings are stated in 2005 Q1 dollars.

FIGURE 4 Industry of Employment of WorkFirst Clients in the Third Quarter After Leaving Program: 2003-2004

Industry Group	Employment
Natural Resources and Mining	2.6%
Construction	4.4%
Manufacturing	6.2%
Wholesale Trade	2.3%
Retail Trade	15.3%
Transportation, Warehousing, and Utilities	2.7%
Information	1.1%
Financial Activities	3.6%
Services	59.8%
Professional, Scientific, and Technical	2.0%
Administrative and Support, and Waste Management and Remediation	14.3%
Education	2.2%
Health Care	11.0%
Social Assistance	5.1%
Arts, Entertainment, and Recreation	3.0%
Accommodation and Food	16.3%
All Other Services	5.9%
Public Administration	1.9%
TOTAL	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Areas for Improvement

WorkFirst clients face substantial barriers to employment. Only 49 percent of clients had employment reported in ESD wage files during the third quarter after leaving the program.

The WorkFirst program will be better able to fulfill their aims by focusing on increasing the employment rate of their clients and encouraging training in

higher-wage occupations. Further, given the high percentage of females served by the program, reducing the gap between the hourly wage earned by females compared to males is another area for improvement.

SECONDARY CAREER AND TECHNICAL EDUCATION

Secondary Career and Technical Education (CTE) serves high school age youth in approximately 238 school districts and 10 skills centers throughout the state. Its mission is to prepare students for successful roles in families, careers, and communities. Programs are designed to develop the skills, understanding, and attitudes needed by workers in their occupations. Instructional programs organized within career pathways include agriculture, family and consumer sciences, trade and industry, marketing education, business education, diversified occupations, technology education, cosmetology, health education, and others.

Because of data limitations, we restricted our evaluation of this program to students who are identified by their districts as CTE completers (Districts define a CTE completer as someone who completed a CTE sequence, whether or not the participant earns a diploma).¹²² This strategy is different than the other program evaluations included in the study that were not limited to completers only. This study focuses on 14,533 CTE completers who left their senior year during the 2003-2004 school year.¹²³

This study includes information from the Office of Superintendent of Public Instruction student records; Employment Security Department (ESD) wage files from Washington, Idaho, and Oregon; and federal employment records. Enrollment data from Washington community and technical colleges, public four-year institutions, and private career schools were analyzed to examine the extent to which CTE completers continued their education. In addition, 1,312 CTE completers participated in a telephone survey, providing additional information on employment and satisfaction with the program.¹²⁴ Employer satisfaction information was collected

through a survey conducted during the summer of 2005; 314 firms that hired new employees who recently completed a CTE program responded to the survey.

Participant Characteristics

CTE completers are roughly as racially and ethnically diverse as the state population ages 16-19 (Figure 1).¹²⁵ Forty-eight percent were female.

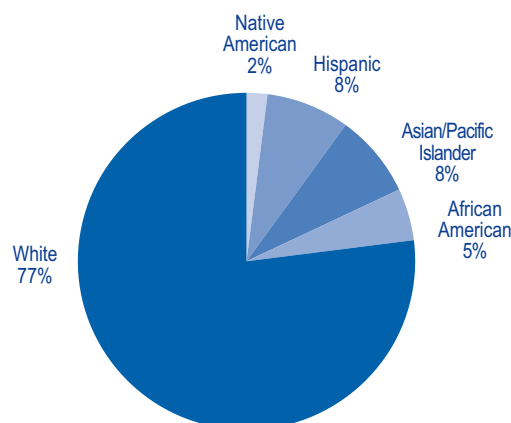
¹²²The state defines a student who completes 360 hours of sequenced CTE classes as a CTE completer. The designation of who is a completer, however, does vary across some school districts. Smaller schools with fewer resources, for example, will offer the most complete sequence they can, but it may be fewer than 360 hours. These schools may still consider the students who finish the sequence to be completers.

¹²³OSPI provided data on 14,860 seniors who left the system during the 2003-2004 school year and who were CTE completers at any time during their K-12 careers. Most of these students graduated (93 percent); however, some dropped out (4 percent), others left with an unknown status (3 percent), and three students were deceased. This study focused on the 14,533 who had completed their CTE education program in their sophomore, junior or senior years, and who were not deceased.

¹²⁴The responses to the participant survey were weighted to reflect the distribution of secondary CTE completers across workforce development areas.

¹²⁵In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those ages 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 Secondary CTE Completers by Race and Ethnicity



Competency Gains

According to the survey, 66 percent of CTE completers enrolled to gain skills for a job. The highest percentages indicated personal improvement and to make school more interesting (94 percent and 83 percent, respectively) as their reasons for enrolling in CTE. CTE completers indicated receiving training in many different skill areas in addition to job-specific skills (Figure 2).

Most completers said their skills improved as a result of taking CTE classes (Figure 3). Similar to completers from 2001-2002, higher percentages indicated “a lot” of improvement in technical and general workplace skills than so reported for basic skills.

Among completers who were employed, 52 percent said CTE was related to their job; about the same reported two years ago.

Many of the completers continued their education at a community or technical college or public four-year university. In the third quarter after completing their program, 39 percent of the completers were enrolled in postsecondary education.¹²⁶

Participant Satisfaction

According to the survey, completers were generally satisfied with their CTE programs. Ninety-five percent said the program met their objectives. Ninety-seven percent were satisfied with the program overall. These high levels of satisfaction are similar to those reported two years earlier.

About two-thirds of completers were generally “very satisfied” with the quality of teaching and the location of classes (Figure 4). Satisfaction level was relatively lower with respect to advice on selecting a program where just over one-third indicated being “very satisfied.”

FIGURE 2 Secondary CTE Completers Receiving Various Skills Training (percentages)

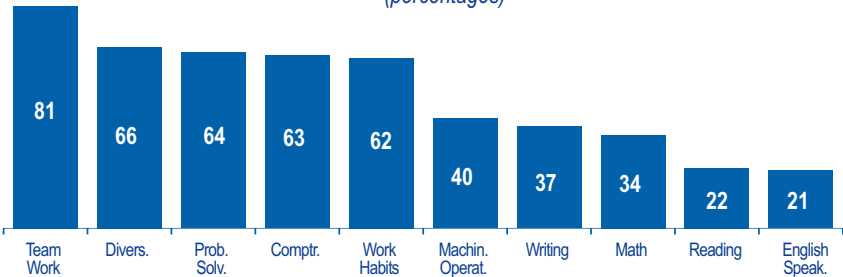


FIGURE 3 Secondary CTE Completers Receiving Various Skills Training Who Reported Their Skills Improved a Little or a Lot (percentages)

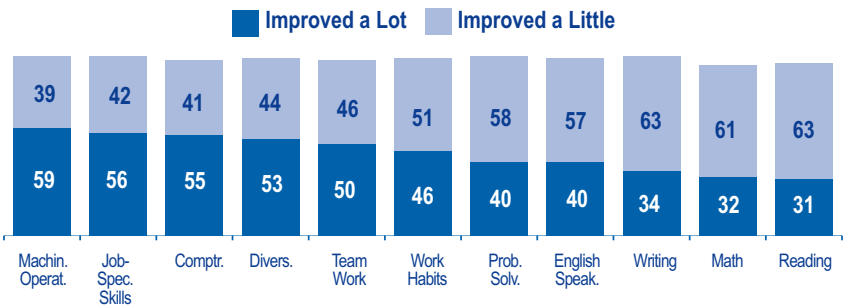


FIGURE 4 Secondary CTE Completers Very or Somewhat Satisfied With Program Features (percentages)



¹²⁶Matches are made against enrollments at Washington’s community and technical colleges, public four-year institutions, and private career schools. However, in-state private four-year colleges and universities and out-of-state postsecondary enrollments are not included in the match. Therefore, the percentage enrolled in higher education may be understated.

In general, CTE completers reported needing fewer support services than other groups we studied, and when they did need these services, they generally received them (Figure 5). The services most frequently needed by completers were assistance with job interviewing and resume writing.

Employer Satisfaction

The employer satisfaction survey asked firms to evaluate new employees who recently completed a CTE program. Across skills areas, similar or higher percentages of employers were at least “somewhat satisfied” compared to the previous survey (Figure 6). While significantly higher percentages were “very satisfied” with their new employees’ computer and problem-solving skills and work habits, substantially lower percentages of employers were “very satisfied” with their teamwork skills and willingness to accept supervision.

Employment and Earnings

According to the survey, 67 percent of the 2003-2004 CTE completers were employed during the period seven to nine months after leaving school (Figure

7).¹²⁷ To find out more about the completers’ post-program employment and earnings, we matched CTE completer records with ESD wage files from

¹²⁷In the survey, CTE completers were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

FIGURE 5 Secondary CTE Completers Needing a Service and Leaving With Need Unmet (percentages)

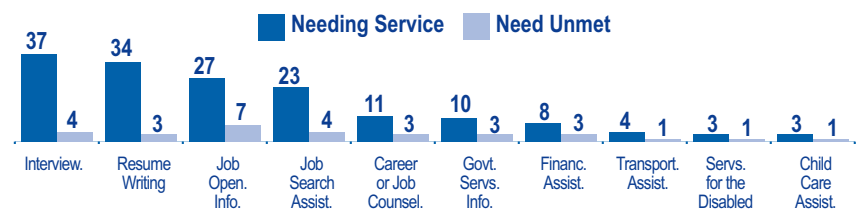


FIGURE 6 Employers Very or Somewhat Satisfied With Various Skills of New Employees Who Completed a Secondary CTE Program (percentages)

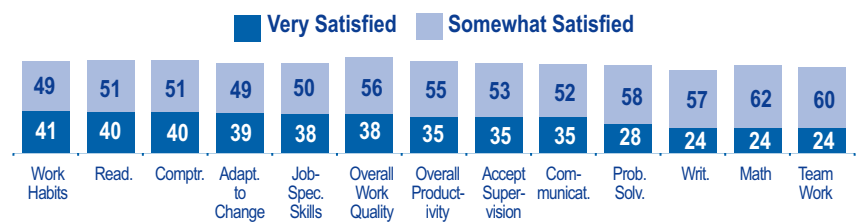


FIGURE 7 Employment and Earnings of Secondary CTE Completers in the Third Quarter After Leaving Program

	1995-96		1997-98		1999-2000		2001-2002		2003-2004	
	All		All	Not Enrolled in School	All	Not Enrolled in School	All	Not Enrolled in School	All	Not Enrolled in School
Percentage self-reporting employment during third quarter after leaving program	80		79	na	75	na	74	na	67	na
Percentage with employment reported by employers to ESD during the third quarter after leaving program	68		62	na	58	na	58	na	55	56
Percentage with reported employment and/or enrolled in higher education	na		74	na	75	na	78	na	73	na
Median quarterly hours worked, of those working	289		274	328	259	332	259	320	248	296
Percentage employed full-time (averaging 30 or more hours/week) of those working	33		29	37	29	41	28	38	26	35
Median annualized earnings of those working	\$8,383		\$8,988	\$10,708	\$8,668	\$11,017	\$8,800	\$10,777	\$8,456	\$10,035
Size of household in which median earnings would support at poverty level	0.9		0.9	1.1	0.9	1.2	0.9	1.1	0.9	1.0
Size of household in which median earnings would support at twice poverty level	0.4		0.5	0.6	0.5	0.6	0.5	0.6	0.4	0.5
Median hourly wage of those working	\$7.50		\$8.14	\$8.38	\$8.74	\$8.89	\$8.52	\$8.59	\$8.49	\$8.60
Percentage self-reporting receipt of medical benefits from employer	34		35	na	40	na	35	na	36	na
Percentage self-reporting receipt of pension benefits from employer	17		17	na	18	na	16	na	13	na

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

Washington and neighboring states. These files contain quarterly earnings and hours-worked information on individuals with employment reported for unemployment insurance (UI) purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found 55 percent of 2003-2004 CTE completers had reported employment and 73 percent had either employment or were enrolled in higher education during the third quarter after leaving. The median wage¹²⁸ for the class of 2004 CTE completers was \$8.49 per hour and their median annualized earnings were \$8,456. Though this wage and earnings may seem low, it is important to remember these are young, entry-level workers.

Compared to all 2003-2004 CTE completers, those not in postsecondary education were more likely to work full time, had a higher median wage, and consequently, higher median annualized earnings. Earnings and wages, however, have been declining since 1999-2000.

Employment of CTE completers continued to be heavily concentrated in retail trade and services industries (Figure 8). A substantially high percentage of CTE completers were employed in accommodation and food services industries, particularly in full- and limited-service restaurants and snack and nonalcoholic beverage bars.

Employment and earnings outcomes between females and males, students with disabilities and students without disabilities, and racial and ethnic minority groups and whites were less likely to be significant than in adult programs. Differences are even less evident when CTE completers who are attending postsecondary education are excluded from the comparisons.¹²⁹

FIGURE 8 Industry of Employment of Secondary CTE Completers During Third Quarter Prior to Program and Third Quarter After Program: 2003-2004

Industry Group	All Youth	Youth Not in Higher Ed
Natural Resources and Mining	1.6%	1.9%
Construction	4.6%	6.2%
Manufacturing	5.3%	7.2%
Wholesale Trade	2.3%	2.7%
Retail Trade	30.0%	27.4%
Motor Vehicle and Parts Dealers	2.8%	3.4%
Food and Beverage Stores	5.8%	5.4%
Clothing and Clothing Accessories	4.5%	3.4%
General Merchandise Stores	7.4%	7.3%
All Other Retail Trade	9.4%	8.0%
Transportation, Warehousing, and Utilities	2.0%	2.0%
Information	1.6%	1.6%
Financial Activities	3.6%	3.6%
Services	47.7%	46.4%
Professional, Scientific, and Technical	1.9%	1.6%
Administrative and Support, and Waste		
Management and Remediation	5.1%	6.9%
Education	2.0%	1.6%
Health Care	5.4%	4.8%
Social Assistance	2.4%	2.1%
Arts, Entertainment, and Recreation	3.6%	3.5%
Accommodation and Food	22.8%	21.4%
All Other Services	4.5%	4.4%
Public Administration	1.2%	1.1%
TOTAL	100%	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

There were still some differences even with the exclusion of CTE completers who were in higher education in the third quarter after leaving high school. Females were more likely to be employed but less likely to be working full time than males. Their median annualized earnings were 85 percent of males, and their median wage was 92 percent of males. Compared to whites, Asians/Pacific Islanders and Native Americans were less likely to be employed and African Americans were less likely to be working full time. African Americans had median annualized earnings that were 88 percent of whites. Students with disabilities were less likely to be employed than completers without disabilities.

¹²⁸All wages and earnings are stated in 2005 Q1 dollars.

¹²⁹Of the 2003-2004 CTE completers, the following percentages of each group were enrolled in higher education: 42 percent of females and 36 percent of males; 19 percent of students with disabilities and 41 percent of students without disabilities; and 40 percent of whites, 33 percent of African Americans, 55 percent of Asians/Pacific Islanders, 29 percent of Hispanics, and 26 percent of Native Americans.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short- and longer-term impacts of program participation on employment, hourly wage, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

In order to estimate these impacts, students who completed a Secondary CTE program were compared to students who had similar characteristics, but who did not participate in any of the programs in the study. The comparison group members were selected from general-track secondary students. Short-term net impacts were derived by examining outcomes for students who exited their senior year in secondary school in 2003-2004 and longer-term impacts for students who exited in 2001-2002.

Secondary CTE has positive net impacts on employment, hourly wage, hours worked, and earnings. CTE completion increases lifetime earning.

Figure 9 shows the short-term and longer-term net impacts of completing CTE. During the third quarter after the 2003-2004 completers left school, CTE completion is associated with an increase of 6.7 percentage points in employment as reported to ESD, a net impact on hourly wage of \$0.52 per hour, a net impact on hours worked per quarter of 21.8 hours, and a net impact of mean quarterly earnings of \$210.

The longer-term impacts, observed 9 to 12 quarters after 2001-2002 CTE completers left school, are positive for employment rate, hourly wage, hours worked in the quarter, and quarterly earnings. In the longer term, CTE completion is associated with a decline in the percentage receiving food stamps and a minimal increase in the percentage receiving UI benefits.

Benefits and Costs

The cost-benefit analysis examines the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.¹³⁰ Benefits and costs are evaluated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to the age of 65. In order to compare benefits and costs in terms of net present values, postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

¹³⁰Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

FIGURE 9 Short-Term Net Impact Results of Secondary CTE Completers Who Exited Senior Year in High School During PY 2003-2004

	Short-Term 2003-2004 Exiters	Longer-Term 2001-2002 Exiters
Employment: percentage in reported employment	6.7	5.4
Mean Hourly Wage	\$0.52	\$0.65
Mean Hours Worked Per Quarter	21.8	35.5
Mean Quarterly Earnings	\$210	\$416
TANF:** percentage receiving aid	0.0*	-0.1*
Food Stamps: percentage receiving	-0.2*	-1.4
Medical Benefits: percentage receiving	0.4*	-0.4*
UI: percentage receiving	0.0*	0.8

Notes: Short-term refers to impacts observed in the third quarter after leaving school. Longer-term refers to impacts observed 9 to 12 quarters after leaving school. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

** Temporary Assistance to Needy Families.

The program cost is the difference in the cost of a student completing CTE compared to the cost of a student completing another type of high school program.¹³¹ (The difference is primarily due to smaller student/teacher ratios in CTE.) The intent of the cost-benefit evaluation is to analyze the net value of exiting high school having completed a CTE program, rather than exiting high school not having completed a CTE program.

Secondary CTE enhances the lifetime earnings of program completers. Gains in earnings and employee benefits outweigh the costs of CTE to the public.

For each CTE completer, the marginal cost to the public (taxpayer) is roughly \$920 over the length of enrollment (Figure 10). During the first two and one-half years after leaving school, the average completer will gain \$3,027 in earnings. During the course of their working life to age 65, they will gain about \$38,000 in earnings and \$7,600 in employee benefits. These are net gains compared to earnings of similar individuals who were not CTE completers.

¹³¹The marginal cost to the state is reflected by vocational funding enhancement school districts receive for each CTE completer; \$774 per full-time equivalent (FTE) student. We add to this the Carl Perkins Vocational and Technical Education funds allocated to CTE in Washington State: \$150 per FTE student.

FIGURE 10

Benefits and Costs of Secondary CTE

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$3,027		\$38,041	
Employee Benefits	\$606		\$7,608	
Taxes	-\$522	\$522	-\$6,562	\$6,562
Transfers*	-\$192	\$192	-\$905	\$905
Costs				
Foregone Earnings**	\$31		\$31	
Program Costs	-\$0	-\$924	-\$0	-\$924
TOTAL	\$2,948	-\$210	\$38,213	\$6,543

Notes: Benefits and costs are expressed in 2005 Q1 dollars.

*Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.

** Instead of foregone earnings, CTE completers had positive net earnings while enrolled.

From the time of leaving the senior year in high school to age 65, the public is forecast to gain about \$6,600 in additional social security, Medicare, and federal income and state sales taxes, and to save \$905 per participant in total UI benefits and other social welfare costs—greater than the cost of CTE completion.

Areas for Improvement

The majority of completers were satisfied with the quality of their CTE program. Most were either employed or enrolled in a two- or four-year college during the third quarter after leaving their program.

Whereas the evaluation results are generally positive, there are areas that could be stronger. The lowest percentages of completers indicated receiving training in basic skills in their CTE programs. Of those who did, they tended to say that their skills did not improve “a lot.” Although employers tended to be satisfied with the technical, workplace, and basic skills of their new employees compared to two years ago, substantially lower percentages were “very satisfied” with the teamwork skills and their employees’ ability to accept supervision.

The completers included in this evaluation are young, entry-level workers. It is not surprising, therefore, that their median wage is relatively low. One potential solution may be to increase the percentages of secondary CTE completers who go on to postsecondary education or training, particularly for males, students with disabilities, African Americans, Hispanics, and Native Americans. Additionally, CTE completers should be encouraged to seek jobs outside of accommodation and food services industries where wages have tended to be low.

As was found in previous evaluations, the postprogram wage rates of female CTE completers were lower than those for males. Secondary CTE should continue to work on closing the wage and earnings gaps between female and male completers.

WORKFORCE INVESTMENT ACT TITLE I-B YOUTH PROGRAM

The Workforce Investment Act (WIA) Title I-B Youth program prepares youth for academic and employment success. In order to receive services, youth must be 14 through 21 years old, low income, and meet other criteria such as needing additional assistance to complete an educational program or to secure and hold employment. To be low income, one must be a welfare or food stamp recipient, homeless, a foster child, or have a family income below 70 percent.

Eligible youth are assessed to determine academic, skill level, and support service needs. Strategies are developed for each person based on the assessment results. They may receive counseling, tutoring, job training, mentoring, or work experience. Other strategies include summer employment, study skills training, or instruction in obtaining a GED or equivalent. Youth may access information services through WorkSource, the state's one-stop career center system. Youth ages 18 through 21 may be co-enrolled in WIA Adult programs. At least 30 percent of the WIA Youth funds must be used to provide activities for eligible out-of-school youth.

Employment Security Department (ESD) administers the program at the state level. Twelve local workforce development councils, in consultation with chief local elected officials, oversee WIA activities in local areas. Local youth councils assist with the WIA program.

For this study, participant records were obtained on 3,543 youth who left the program during the 2003-2004 program year (July 1, 2003, through June 30, 2004). This study includes information from ESD wage files from Washington, Idaho, and Oregon,

and federal employment records. In addition, 636 of the participants completed a telephone survey, providing further information on employment and satisfaction with the training.¹³²

The typical (median) participant was in the program for 12 months. There was, however, considerable variation in the amount of time participants spent in the program. One quarter was enrolled for less than 7 months, while another quarter was enrolled for over 19 months.

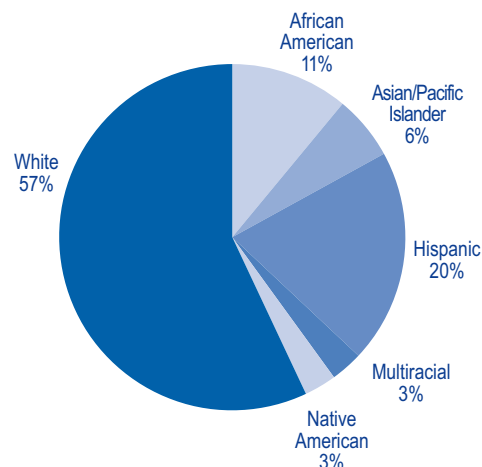
Participant Characteristics

WIA youth were more racially and ethnically diverse than the state population ages 14-21 (Figure 1).¹³³ Fifty-three percent were female.

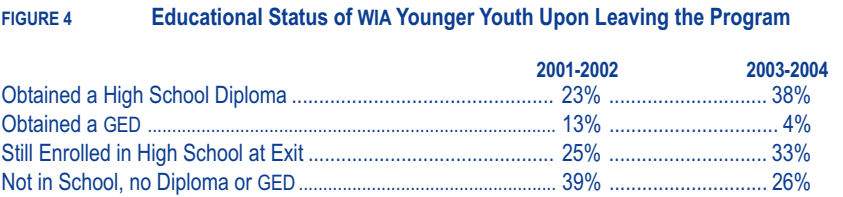
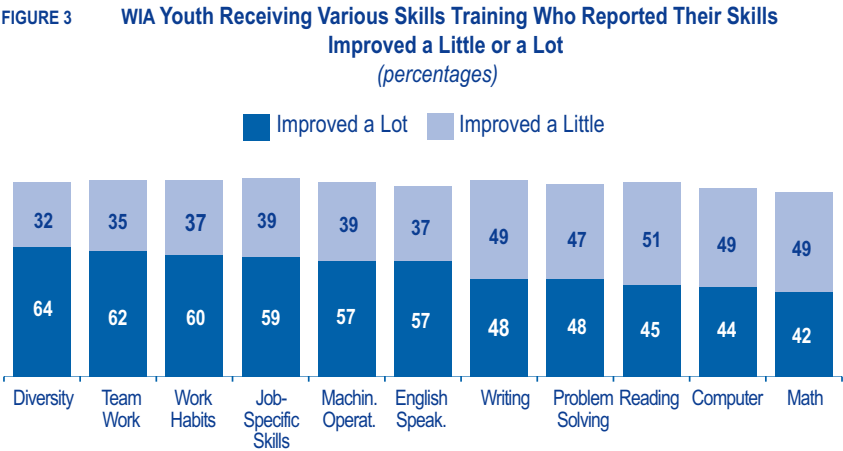
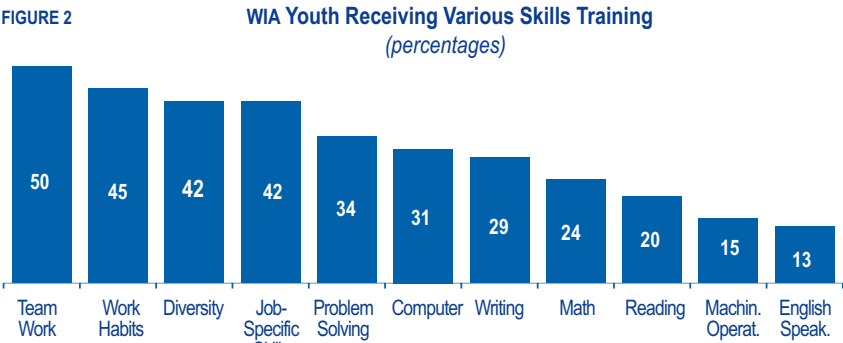
¹³²The responses from the participant survey were weighted to reflect the distribution of WIA youth by workforce development councils.

¹³³In this report, unless otherwise stated, racial and ethnic minority groups are mutually exclusive; that is, an individual belongs to one group only. The groups include the following: Hispanics of any race (also referred to as Hispanics); non-Hispanic African Americans (also referred to as African Americans); non-Hispanic Asians/Pacific Islanders (also referred to as Asians/Pacific Islanders); non-Hispanic Native Americans and Alaskan Natives (also referred to as Native Americans); non-Hispanic multiracial (also referred to as multiracial); and non-Hispanic whites (also referred to as whites). According to the 2004 Washington State Population Survey, of those aged 16-74, 80 percent are whites; 3 percent are African Americans; 1 percent are Native Americans; 7 percent are Asians/Pacific Islanders; 2 percent are multiracial; and 7 percent are Hispanics.

FIGURE 1 WIA Youth by Race and Ethnicity



Many WIA youth faced substantial barriers to success in school and the labor market. Thirty percent were high school dropouts when they entered the program.¹³⁴ Eighteen percent had records of arrest or conviction, sixteen percent had a disability, and fifteen percent lived in households that were receiving public assistance.¹³⁵



Note: Diploma or GED could be obtained anytime during enrollment and up to the first quarter after exit.

Competency Gains

Based on survey results, most WIA youth entered the program for employment-related reasons: 88 percent enrolled to get work experience and 83 percent to learn skills for a new job.¹³⁶ Eighty-eight percent also enrolled for personal improvement.

The majority of WIA youth (63 percent) reported they did receive some type of training. As in the previous study, among the WIA youth leaving in 2003-2004, the most common type of training received was in general workplace skills (Figure 2).

As in the past, nearly all WIA youth who received training reported their skills improved (Figure 3). Higher percentages reported “a lot” of improvement in general workplace and technical skills than did so in basic skills. Fifty-seven percent of employed WIA youth said training was related to their employment during the third quarter after leaving the program, down from sixty-five percent reported two years ago.

Promoting academic success is also an objective of the program. Administrative records provide information on school enrollment and high school completion for WIA youth.¹³⁷ Among younger participants,¹³⁸ data indicate substantially better outcomes for WIA youth exiting in 2003-2004 than exited two years ago (Figure 4).

Participant Satisfaction

Survey results revealed participants were quite satisfied with the training and support services they received as part of their WIA Youth program.

¹³⁴These are defined as youth who had no high school degree and who were not enrolled in school at registration.

¹³⁵Those on public assistance includes 5 percent who received cash assistance from state or local General Assistance, Refugee Cash Assistance, or Supplemental Security Income; 8 percent who received Temporary Assistance to Needy Families (TANF); and 2 percent who received both.

¹³⁶Respondents could indicate more than one reason for enrolling in the program.

¹³⁷These records are collected through the Service, Knowledge, and Information Exchange System (SKIES) maintained by ESD.

¹³⁸These youth were ages 14 to 18 when registering in WIA.

Ninety-two percent of the participants surveyed said they had met their educational objectives in the program, virtually the same percentage as two years ago. Overall satisfaction with the program was at the same level as reported two years ago (96 percent). The majority were “very satisfied” with program cost, location, and times (Figure 5).

Based on the survey results, most of the participants who needed various support services while participating received them (Figure 6). Similar to two years ago, the services most frequently needed by youth were information on job openings, assistance with resume writing, interviewing, and job search assistance. Most youth had their needs in these areas met. The greatest unmet need remains for job opening information (12 percent of 2003-2004 youth and 17 percent of 2001-2002 youth).

Employment and Earnings¹³⁹

According to survey responses, 67 percent of the 2003-2004 WIA youth were employed during the period seven to nine months following the program (Figure 7).¹⁴⁰ To find out more about the participants’ postprogram employment and earnings, we matched

¹³⁹Several factors need to be considered when comparing outcomes for program participants over time. WIA replaced Job Training Partnership Act (JTPA) on July 1, 2000; the results through 2000 in Figure 6 are for JTPA Title II-C. Youth leaving programs during 2001-2002 entered a much weaker labor market than did those leaving during 1999-2000. The characteristics of these youth also changed. Especially important is the greater enrollment of younger youth under WIA than was the case during the last year of JTPA; the percentage of participants aged 16 or younger at registration increased from 24 percent to 40 percent. Younger youth are less likely to be employed than older youth.

¹⁴⁰In the survey, youth were asked whether they were employed or self-employed. Therefore, in most cases, the percentage who reported being employed will be higher than the percentage of those whose employment was found in ESD wage records.

FIGURE 5 WIA Youth Very or Somewhat Satisfied With Program Features (percentages)

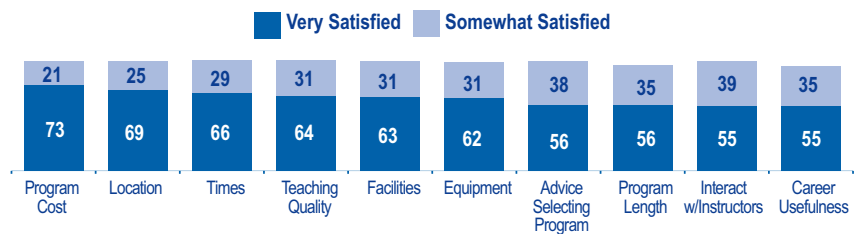


FIGURE 6 WIA Youth Needing a Service and Leaving With Need Unmet (percentages)

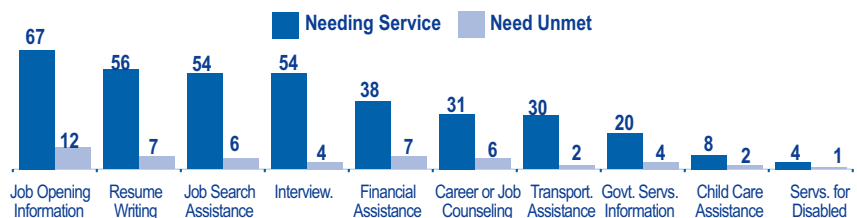


FIGURE 7 Employment and Earnings of WIA Youth in the Third Quarter After Leaving Program

	1995-96* All	1997-98* All	1999-2000* All	2001-2002 Not in High School	2003-2004 All	2003-2004 Not in High School
Percentage self-reporting employment during third quarter after leaving program	66	76	74	66	na	67
Percentage with employment reported by employers to ESD during the third quarter after leaving program	50	59	55	47	52	52
Median quarterly hours worked, of those working	258	250	247	234	253	250
Percentage employed full-time (averaging 30 or more hours/week) of those working	32	27	28	27	29	29
Median annualized earnings of those working (not in higher education)	\$6,812	\$7,225	\$7,909	\$7,858	\$8,549	\$8,521
Size of household in which median earnings would support at poverty level	0.7	0.8	0.8	0.8	0.9	0.9
Size of household in which median earnings would support at twice poverty level	0.4	0.4	0.4	0.4	0.4	0.4
Median hourly wage of those working (not in higher education)	\$6.96	\$7.32	\$8.22	\$8.22	\$8.30	\$8.25
Percentage self-reporting receipt of medical benefits from employer	36	35	40	38	na	33
Percentage self-reporting receipt of pension benefits from employer	20	18	18	17	na	15

Notes: Earnings and wages are expressed in 2005 Q1 dollars. Poverty levels are based on federal poverty guidelines identified by the Department of Health and Human Services for 2005.

*Figures for 1995 through 2000 are for the JTPA II-C Youth program.

participants' records with ESD wage files from Washington and neighboring states. These files contain quarterly earnings and hours worked information on those individuals with employment reported for unemployment insurance (UI) benefits purposes (approximately 90 percent of in-state employment, with self-employment, active duty military, and those working for religious nonprofit organizations being the major groups of employers not included).

Record matches found 52 percent of the participants had employment reported to ESD during the third quarter after they left the program. About 23 percent of the participants were still enrolled in high school upon exiting the program. Among those not still in high school, 56 percent had reported employment.

Among those not enrolled in high school or higher education, the median hourly wage¹⁴¹ was \$8.41, and median annualized earnings were \$9,775. These earnings levels are low; however, remember these participants were young, entry-level workers, and many of them faced substantial barriers to success in the labor market. Despite the low wage and earnings, WIA Youth (and their JTPA predecessors) have experienced increases in both since 1995-96. Wages rates among participants, as one would expect, exhibited less variation than was observed in programs serving adults (Figure 8). Figure 8 shows the distribution of wages received by WIA Youth not enrolled in high school or higher education.

Postprogram employment among WIA Youth continues to be heavily concentrated in retail trade and services with 22 percent in eating and drinking establishments (Figure 9).

FIGURE 8 Distribution of Hourly Wages of WIA Youth in the Third Quarter After Leaving Program

Quartile	Hourly Wage
Highest	Above \$9.87
Third	\$8.41 - \$9.87
Second	\$7.63 - \$8.41
Lowest	Below \$7.63

Employment and earnings outcomes between females and males, youth with and without disabilities, and racial and ethnic minority groups and whites were less likely to be significant than in other programs.¹⁴² Female youth had median earnings that were 86 percent of males; however, their median wage was 95 percent of males. Youth with disabilities had median earnings that were 86 percent of youth without disabilities; their median wage was 95 percent of those without disabilities. Compared to whites, Native Americans were less likely to be employed, while Hispanics were more likely to be employed. African Americans had median earnings that were 83 percent of whites.

¹⁴¹All wages and earnings are stated in 2005 Q1 dollars.

¹⁴²These employment and earnings group comparisons were based on data from youth who were not in high school at exit.

FIGURE 9 Industry of Employment of WIA Youth During Third Quarter Prior to Program and Third Quarter After Program: 2003-2004

Industry Group	All Youth	Youth not in High School
Natural Resources and Mining	2.7%	2.3%
Construction	4.1%	4.5%
Manufacturing	6.9%	7.2%
Wholesale Trade	2.0%	1.9%
Retail Trade	18.7%	19.8%
Food and Beverage Stores	4.3%	4.3%
Department Stores	4.6%	5.1%
All Other Retail Trade	9.8%	10.4%
Transportation, Warehousing, and Utilities	1.2%	1.4%
Information	1.7%	1.9%
Financial Activities	3.5%	3.6%
Services	57.2%	55.5%
Administrative and Support, and Waste Management and Remediation	10.2%	10.3%
Health Care	8.8%	9.6%
Social Assistance	4.3%	4.2%
Accommodation and Food	22.0%	19.5%
All Other Services	11.9%	11.8%
Public Administration	2.0%	1.9%
TOTAL	100%	100%

Note: Industry groups are based on North American Industry Classification System codes. Major and subgroup percentages do not always sum due to rounding.

Net Impacts

Every four years the Workforce Training and Education Coordinating Board conducts net impact and cost-benefit analyses of workforce development programs. The most recent net impact study was conducted in 2006 and examined the experience of participants who left programs during the 2003-2004 and 2001-2002 program years.

The net impact analysis, conducted by the W.E. Upjohn Institute for Employment Research (Upjohn), attempts to estimate what happens to program participants as compared to what would have happened if they had not participated in a program. The objective is to determine the short- and longer-term impacts of program participation on employment, hourly wage, hours worked, quarterly earnings, and receipt of UI benefits and public assistance.

To estimate these impacts, those who participated in the WIA Youth program were compared to individuals who had similar characteristics, but who did not participate in any of the programs included in the study. The comparison group members were selected from registrants to the state's employment service. Short-term net impacts were derived by examining outcomes for individuals who exited the programs (or from the employment service) in 2003-2004 and longer-term impacts for individuals who exited in 2001-2002.

The WIA Youth program has positive longer-term net impacts on employment, hourly wage, hours worked, and earnings. Participation increases lifetime earning.

Figure 10 shows the short-term and longer-term net impacts of the program. During the third quarter after the 2003-2004 youth left the program, participation is associated with negative net impacts on hours worked per quarter, -13.0 hours, and on quarterly earnings, -\$258. Furthermore, participation

is associated with increases in the percentages receiving public assistance—Temporary Assistance to Needy Families (TANF), food stamps, and medical benefits.

The longer-term net impacts are observed 9 to 12 quarters after participants left the program during the 2001-2002 program year. In the longer term, there are positive net impacts on employment, hourly wage, hours worked, and quarterly earnings. Participation, however, is associated with increases in the percentages receiving food stamps and medical benefits.

Benefits and Costs

The cost-benefit analysis estimates the value of the net impact on earnings, employee benefits (estimated at 20 percent of earnings), social welfare benefits, UI benefits, and certain taxes.¹⁴³ Program costs include both direct costs and support payments borne by the state and the foregone earnings borne by program participants. Benefits and costs are calculated for both the observed period of time and based upon a statistical model that estimated the benefits and costs out to age 65. In order to compare benefits and costs in terms of net present values,

¹⁴³Upjohn estimated the impact of the net change in earnings on social security, Medicare, and federal income and state sales taxes.

FIGURE 10 Short-Term and Longer-Term Net Impact Results for WIA Youth Who Left the Program During PY 2001-2002 or PY 2003-2004

	Short-Term 2003-2004 Exiters	Longer-Term 2001-2002 Exiters
Employment: percentage in reported employment	-0.4*	10.3
Mean Hourly Wage	-\$0.29*	\$0.75
Mean Hours Worked Per Quarter	-13.0	31.1
Mean Quarterly Earnings	-\$258	\$317
TANF: percentage receiving aid	2.2	-0.1*
Food Stamps: percentage receiving	8.3	9.0
Medical Benefits: percentage receiving	14.0	6.5
UI: percentage receiving	-0.1*	1.0*

Notes: Short-term refers to impacts observed in the third quarter after leaving the program. Longer-term refers to impacts observed 9 to 12 quarters after leaving the program. Earnings and wages are in 2005 Q1 dollars.

* Not statistically significant at the 0.05 level.

postprogram benefits and costs are discounted by 3 percent per year and all figures are stated in 2005 Q1 dollars. The benefits and costs presented here are based on impacts estimated for Youth participants leaving programs in 2001-2002, because a longer-term follow-up is required for this analysis.

For each WIA Youth, the public (taxpayer) program cost is about \$6,300 over the length of enrollment (Figure 11). During the first two and one-half years after leaving the program, participation increases the average youth participant's earnings by \$1,719. During the course of working life to age 65, the average youth participant will gain about \$27,780 in net earnings (earnings minus foregone earnings) and about \$5,560 in employee benefits. These are net gains compared to the earnings of similar individuals who did not participate in a program.

Projected participant benefits to age 65 outweigh public costs for the WIA Youth program by a ratio of 5.3 to 1, or \$33,336 to \$6,314.¹⁴⁴

¹⁴⁴This ratio does not include the impacts on taxes, UI benefits, and public assistance, which are direct transfers between participant and the public (taxpayers).

From the time of leaving the program to age 65, the public is expected to gain about \$4,800 per youth participant in additional social security, Medicare, and federal income and state sales taxes, and to save about \$2,800 per youth participant in total social welfare costs, and UI benefits—greater than the direct cost of the program.

Areas for Improvement

When reviewing the results of this evaluation, remember the WIA Youth program serves participants who are disadvantaged. Many of the participants included in this study faced substantial barriers to success in school and the labor market.

Most participants were very satisfied with the program, and support services remain a strong area for the WIA Youth program. Based on the survey results, most of the participants who needed support services received them. The greatest unmet need was for job opening information.

Program administrators should consider placing even greater resources into promoting high school completion. Among youth who exited WIA during 2003-2004, many did obtain a high school diploma, and many were still enrolled in high school upon leaving the program. Too many, however, were neither in school nor had obtained a diploma.

Perhaps more attention should be given to basic skills instruction. According to survey results, among the WIA Youth who received basic skills training, relatively few reported substantial gains in math, writing, and reading skills.

Earnings among participants, as is typical of young entry-level workers, were relatively low. One problem is employment among WIA Youth is heavily concentrated in retail trade and lower-wage services. More should be encouraged to receive the job-specific skills training required for higher wage jobs.

FIGURE 11 Benefits and Costs of WIA Youth Program

	First 2.5 Years After Program		Forecast to Age 65	
	Participant	Public	Participant	Public
Benefits				
Earnings	\$1,719		\$27,780	
Employee Benefits	\$344		\$5,556	
Taxes	-\$297	\$297	-\$4,792	\$4,792
Transfers*	\$1,395	-\$1,395	-\$2,775	\$2,775
Costs				
Foregone Earnings	\$0		\$0	
Program Costs	\$0	-\$6,314	\$0	-\$6,314
TOTAL	\$3,162	-\$7,412	\$25,769	\$1,253

Notes: Benefits and costs are expressed in 2005 Q1 dollars.
*Transfers include UI, TANF, food stamps, and medical benefits. TANF benefits reflect the value of cash grants, child care, and other client support services.